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PROCEEDINGS
OF THE
ROYAL IRISH ACADEMY

VOLUME XXV



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PROCEEDINGS
OF THE
ROYAL IRISH ACADEMY

VOLUME XXV

**SECTION A.—MATHEMATICAL, ASTRONOMICAL,
AND PHYSICAL SCIENCE**



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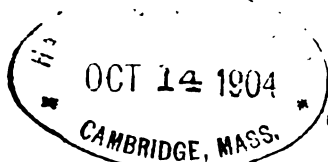
ERRATUM.

SECTION A.

Page 53, last line, *read*

$$- \{ \nu_6 - 7 (p_1 / 4 + p_2 p_3) + 28 (p_1^2 p_3 + p_1 p_2^2) - 84 p_1^3 p_2 + 42 p_1^5 \} s^6.$$

September, 1904



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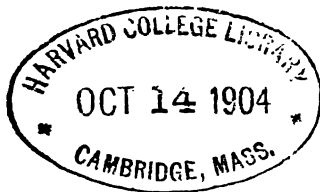
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PROCEEDINGS OF THE ROYAL IRISH ACADEMY

PAPERS READ BEFORE THE ACADEMY

I.

PECULIARITIES IN BAROGRAPH CURVES
CHARACTERISTIC OF APPROACHING STORMS.

By WILLIAM EDWARD WILSON, F.R.S.

Read FEBRUARY 8. Ordered for Publication FEBRUARY 10.
Published FEBRUARY 24, 1904.

IN 1889, I obtained one of the recording aneroids by Richard of Paris. It is the large scale instrument, and draws barograms of twice the amplitude of the ordinary mercurial barometer. With the object of studying the curves obtained with this instrument, I had a long board attached to the wall of my laboratory, on which I could pin up the weekly records in a long line of some months' duration. It was not long before I found that, at uncertain intervals, there was reproduced over and over again a certain type of curve. The period of completion of one set was not always the same, but varied from about three weeks to something less than a week. I can offer no solution of this extraordinary curve; but that it is not due to mere chance is, I think, evident from the frequency with which they are reproduced. The late Prof. Fitzgerald took a great deal of interest in them; and although he could not solve them, he said he was quite certain that they had a physical meaning. The fundamental property of these curves is this. After a rather low pressure, the barometer rises fairly steadily until generally above the normal. After an uncertain interval, a fall sets

in ; but this falling part of the curve is made up of three crests, and these three points lie in a straight line. If we now draw on the chart, with a ruler, a straight line touching these three crests, and then a second straight line from the commencement of the curve to the depression between the second and third crest, and if these two straight lines are produced until they meet, the point of intersection will lie over the next coming cyclone (fig. 1).

At once the three points are found to lie in a straight line, it is possible to foretell the advent of a coming cyclone. Sometimes these curves follow each other in succession, and then again they may only come occasionally ; but I have never found a case where the three points lie in a straight line, that the lines, if produced, will not lie on the advancing cyclone.

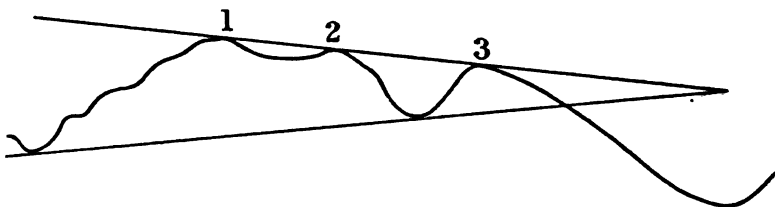


FIG. 1.

The Athenæum Club in London have an instrument of the same scale as mine ; and I thought it would be of interest to compare the simultaneous curves taken in London and Daramona. As far as I compared them, I found that there was no such type of curve produced in the London record ; but some records taken at Valentia and at Glasgow gave them.

Fitzgerald suggested that it might be necessary for the production of these curves that the record be taken not too far from the track of the cyclone. The usual track of cyclones is along the west coast of Ireland and into the North Sea. London may thus be too far for these curves to be produced.

From December, 1889, to December, 1890, there were recorded nine characteristic curves. After that date the systematic search for them was discontinued ; but several cases have since been recorded, the great storm system of February 27, 1903, being a fine example.

II.

A SURVEY OF THE SPIRAL NEBULA MESSIER 33 BY
MEANS OF PHOTOGRAPHS TAKEN BY DR. ISAAC
ROBERTS, F.R.S.

By J. L. E. DREYER, PH. D.

Read APRIL 25. Ordered for publication MAY 11. Published SEPT. 6, 1904.

PLATES I. AND II.

THE great nebula known as Messier No. 33 is situated in the constellation Triangulum, and was first noticed by Messier in 1764. He describes it as having a whitish light, almost equable throughout, but a little brighter over two-thirds of the diameter, containing no stars, and being 15' in diameter. William Herschel mentions it in his papers in the Philosophical Transactions for 1785 and 1818. In the former he says that its breadth from north to south is probably not less than 30', but that it fades away so gradually that its limits are difficult to fix. In the paper of 1818 he mentions that when seen in his seven-foot reflector it had a mottled aspect, but that a ten-foot telescope resolved it into stars, "the smallest points imaginable." In reality, the nebula is not "resolvable," that is to say, it is not a cluster of stars; but Herschel doubtless was able to perceive many of the minute stars scattered over the nebulosity, as well as some of the condensations or "knots," and he concluded, therefore, that the nebula was resolvable. North of its centre, but situated on one of its branches, is a small nebula (III. 150 = λ 133), looking like an ill-defined star, "almost planetary," according to d'Arrest, observing in 1864, which description has been confirmed by the spectroscope, since the spectrum is a gaseous one.

In a small telescope, and even in a moderate-sized one, M. 33 does not look an interesting object. It only occurs once in Sir John Herschel's series of observations (Phil. Trans., 1833); he remarks that "the diffused neb. extends 15' south, and as much nearly north; it has irregularities of light, and even feeble subordinate nuclei, and

... small stars. Probably V. 17 is part of the diffused neb. of M. 33.¹ But when Lord Rosse's six-foot reflector was turned to this object, it was at once found to belong to the interesting class of spiral nebulae, the first discovery of which is one of the greatest triumphs of that instrument. In the late Lord Rosse's paper in the *Phil. Trans.* for 1850, there is a sketch of the central portion by Mr. Johnstone Stoney (pl. xxxvi., fig. 5), which does not profess to be very accurate, but only to represent sufficiently well the general character of the central portion. A drawing of the whole nebula, made by a subsequent observer at Birr Castle, Mr. R. J. Mitchell, in 1857, appeared in the *Phil. Trans.*, 1861, plate xxvi. It gives a very good general idea of the nebula; but the photographs now available show vastly more detail. The round nebula shown on the northern arm (at the very top of the plate) is III. 150, while the detached ones preceding (to the right) are N. G. C. 595 and 592, independently found by d'Arrest; and the "knot," almost due north of the centre, is Bigourdan's No. 131 (my Index Catalogue No. 142).

These are the only two drawings hitherto published—a fact not to be wondered at, considering the extreme difficulty of seeing the object well. But photography has now given us the means of depicting faithfully the most complicated objects in the world of nebulae; and nowhere is its superiority over the old method of drawing more clearly shown than in the case of the nebula now under consideration. The absence of a well-defined nucleus has also prevented this nebula from being successfully observed by the various astronomers who during the last fifty years have made micrometric observations of nebulae, though several of them (including myself) have attempted it.

Micrometer measures of nebulae, however carefully made, are known to suffer from one great defect—the systematic errors in observing transits of these objects, caused by the difference of personal error as regards the nebula and the comparison star. Though this difficulty may be met, either by each observer determining his own personal error in the manner which I suggested in 1896,² or by abandoning altogether the use of more or less distant comparison stars, bright enough to be observed on the meridian, and only measuring with the micrometer screw stars appearing in the same field as the

¹ W. Herschel as a rule did not assign new numbers to Messier's objects. But this one he calls No. 17 of his fifth class, which comprises the very large nebulae. In *Phil. Trans.*, 1818, he calls it "No. 33 of the *Connaissance des Temps*."

² "On systematic errors in observing right ascensions of nebulae." *Monthly Notices, R.A.S.*, vol. lvii., p. 44.

nebula, still it is obvious that photography possesses great advantages over direct micrometer measures. A photographic plate covers a larger area than the micrometer screw can range over, and therefore offers a larger selection of comparison stars, while it at the same time enables the observer to measure these without taking transits, and thereby introducing systematic errors. Nobody has yet succeeded in finding a nebula having proper motion or annual parallax; and yet it would be of the greatest value for our conception of the universe if discoveries of this kind could be made, on account of the very peculiar distribution of the nebulae over the heavens, the great majority of them being massed nearly at the poles of the Milky Way, while one peculiar class—the nebulae having gaseous spectra—nearly all lie in or close to the Milky Way.

For these reasons, I inquired some years ago from Dr. Isaac Roberts whether he would place some of his excellent photographs of nebulae at my disposal, for the purpose of measuring them. Dr. Roberts most kindly consented to do so; and having obtained from the Government Grant Committee a grant for the purpose, I had a measuring machine constructed by Messrs. Troughton and Simms. At Dr. Roberts' request, I commenced operations (after having made myself familiar with the instrument by measuring some plates of the Pleiades) by examining two plates of the spiral nebula M. 33, the results of which work I shall now describe.

The instrument is designed for measuring either position angles and distances, or rectangular coordinates, one at a time. I have hitherto only used it for the latter purpose.¹ The plate-holder is arranged to hold plates of 16 cm. square (the international size), or 10 cm. square (Dr. Roberts'), it is placed in the centre of a rotating position circle of 25.5 cm. diameter, graduated to 10', and read by two verniers, and supplied with a clamp and slow motion. The square frame of the holder and circle can slide up and down a slide (which I call the B-slide), inclined about 45° to the horizontal plane, and is counterbalanced by a weight held by a chain passing over a pulley. It is provided with a slow motion and clamp, which it has rarely been found necessary to use. On the left-hand side the frame is supported on two small wheels running on a plane surface; on the right-hand side there are two rectangular Y's resting and sliding on a carefully turned steel cylinder, the perpendicularity of which to the

¹ The measuring machine in use at Greenwich is of a somewhat similar construction. See *Monthly Notices, R.A.S.*, vol. lviii., p. 327.

second slide can be adjusted by screws at one end. A steel scale (B) divided into millimeters, and read by a vernier, serves to identify the object viewed in the microscope. The latter is at the left end of a metal frame moving on a second slide (A), at right angles to and of similar construction to the first one; it is also supplied with clamp, slow motion, and steel scale for identification. The viewing microscope is only provided with two cross-wires. 29.5 cm. to the right of it on the same frame, and therefore rigidly connected with it, is the measuring micrometer microscope, through which is seen a rectilinear glass scale, supported in a separate frame on the gun-metal base of the instrument, and parallel to the A-slide. This microscope is of the form usual on transit circles; the screw carries two close, parallel wires, and the drum of the screw is divided into a hundred parts, tenths of which can be estimated. One revolution of the screw is equal to one-fifth of a millimeter, or one-fifth of the interval between two consecutive division lines on the scale; the number of turns is counted on a comb in the usual manner.

When the photographic plate is placed so that north is at the top or bottom, the A-scale will give differences of abscissæ approximately, and the glass scale the same accurately, while the B-scale gives approximate differences of ordinates. The plate may be turned 90° , and the latter determined accurately. My practice has been to determine first all the x 's in zones of 5 mm. breadth, and then all the y 's in the same manner, adopting a star near the centre of the plate as zero point, and measuring carefully its coordinate at the beginning and end of each zone, to make sure that the heat of the observer's body did not affect the results. Care was taken to prevent this by cardboard screens; and whenever an appreciable change was found, a gradual alteration was assumed to have taken place in the distance between the two microscopes, otherwise a simple mean of the two values was adopted.¹

The screw has only been used for less than three revolutions to either side of the central notch of the comb in the microscope; and only that part of the screw has therefore been investigated for periodic and progressive errors. To find the periodic errors, the distance between the parallel wires was measured by setting first one wire and then the other on a small dot on the glass scale, the head reading very nearly 0.0, 0.1, . . . 0.9. Three complete sets were taken of the six revo-

¹ On three occasions (out of thirty-six) the difference amounted to as much as 0.004 mm. or 0".66, while twenty-one differences were less than 0.002 mm. or 0".33.

lutions round the central notch, the mean value of the interval being found = $0^{\circ}2615 = 94^{\circ}8'4$. Using Bessel's nomenclature,¹ the following values were found :—

$$\begin{aligned} \alpha &= -0.00200 \\ \beta &= +0.00073 \\ \alpha' &= -0.00081 \\ \beta' &= -0.00043, \end{aligned}$$

so that the correction for periodic error to the reading u is
 $= -0.00200 \cos u + 0.00073 \sin u - 0.00081 \cos 2u - 0.00043 \sin 2u$.

Applying the difference between the correction for 0.26 and 0.00, &c., to the excess of the individual sixty values of the interval over the mean value 0.2615, the following residuals were found, the minus sign referring to the revolutions to the left of the notch, the plus sign to those to the right :—

| Rev | ·0 | ·1 | ·2 | ·3 | ·4 | ·5 | ·6 | ·7 | ·8 | ·9 |
|-----|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| -2 | +0020 | -0010 | -0031 | +0010 | +0054 | 0000 | -0029 | +0023 | +0008 | -0019 |
| -1 | +13 | 00 | -31 | +07 | -23 | -10 | -19 | +19 | -05 | -15 |
| -0 | +07 | +20 | +13 | +17 | -13 | -17 | -12 | +09 | -22 | -12 |
| +0 | +07 | +07 | -07 | +20 | 00 | 00 | +25 | -07 | +02 | -19 |
| +1 | +13 | +04 | -14 | +20 | +30 | +23 | -12 | +06 | +05 | -15 |
| +2 | +10 | -06 | -24 | -17 | 00 | +06 | -09 | +26 | +08 | -12 |

These residuals represent progressive errors, and, of course, also errors of observation. If u_1 and u are expressed in revolutions and decimals of revolutions from zero (here three revolutions to the left of the notch), the progressive errors are found by the equations

$$x(u_1 - u) + y(u_1^2 - u^2) = \text{residual.}$$

The sixty equations of this form gave

$$x = +0.00040, \quad y = -0.00003,$$

so that the error depending on the number of revolutions from the beginning of -2' is

$$+0.00040r - 0.00003r^2$$

¹ Bessel, *Astron. Untersuchungen*, II. p. 79; *Abhandlungen*, II. p. 143.

or practically insensible, as might have been expected from the smallness of the residuals.

The next part of the instrument to be specially investigated was the glass scale. Of this only a length of about 40 mm. (from the line marked 8 to that marked 16) has been used, or is likely to be used, and I have therefore confined my attention to this part. The division errors of the lines marked 7 to 17, distant from each other 5 mm. or 25 revolutions of the screw, were determined by Hansen's third method.¹ This involved the comparison of the intervals of the scale with test-intervals of an auxiliary scale; and as the scale as supplied by the makers had the divisions marked along the centre of a glass plate $3\frac{1}{2}$ cm. in breadth, so that an auxiliary scale could not be seen beside it in the microscope, Messrs. Troughton and Simms, at my request, cut the glass plate lengthways in two, so that the division lines now appear at the new edge of the glass plate, and supplied an auxiliary scale 30 mm. in length, divided to 5 mm., which by a coarse screw can be moved along the principal scale. I rather regret this alteration, as the new edge was at first full of small fractures, which had to be ground out, and the result of all this work was, that in one way or other the edges of the division lines became so polished that it is very difficult to get the lines properly blackened, and they are therefore not quite as distinct as originally. By taking care to have the mirror, by which the daylight is reflected through the scale, moving along, so as to be always exactly opposite the microscope, I believe, however, that I have obtained good light without any danger of an apparent shifting of the lines due to excentric illumination. It would obviously have been much better to have left the scale as it was, and to have placed the auxiliary scale under another micrometer-microscope, substituted for the viewing microscope. In comparing the intervals of the two scales, no attempt was made to get the lines to coincide, lest systematic errors should be introduced in that way; the lines at one end of the interval were put very close to each other, and independent settings were then made on them with the screw. In this way intervals of 5, 10, 15, 20, and 30 mm. were compared, three complete series of measures being taken. The following errors of division were found, expressed in revolutions of the screw ($1r = 16''\cdot4$), and in millimeters. According

¹ P. A. Hansen, *Von der Bestimmung der Theilungsfehler eines gradlinigen Maasstabes*, p. 608 (Abhandl. d. math. phys. Classe d. K. Sächs. Ges. d. Wiss. X., Leipzig, 1874).

to the method employed, the errors of the lines at the ends of the part examined are assumed = 0.

| Line | r | | mm |
|------|---------|---|----------|
| 6 | 0.000 | = | 0.0000 |
| 7 | - 0.004 | = | - 0.0008 |
| 8 | + 0.006 | = | + .0012 |
| 9 | + 0.027 | = | + .0054 |
| 10 | + 0.037 | = | + .0074 |
| 11 | + 0.043 | = | + .0086 |
| 12 | + 0.036 | = | + .0072 |
| 13 | + 0.038 | = | + .0076 |
| 14 | + 0.045 | = | + .0090 |
| 15 | + 0.028 | = | + .0056 |
| 16 | + 0.021 | = | + .0042 |
| 17 | + 0.015 | = | + .0030 |
| 18 | 0.000 | = | 0.0000 |

The errors of the intermediate lines marking the single millimeter-intervals (five revolutions of the screw) have not yet been definitely determined; but I have compared all the intervals by means of the screw, treating each 5 mm. space as a separate scale, and in this way I have satisfied myself that a curve, expressing graphically the errors given above, will correspond sufficiently well to the errors of the intermediate lines.

As already mentioned, I have referred all my measures to a small star (of about the 12th magnitude), situated about 3' south, following the characteristic lozenge of four stars at the centre of the nebula, so that the measures give rectangular coordinates with this star as origin. As I had only an approximate idea as to the right ascension and declination of the point in the heavens to which the axis of the telescope had been directed, and could only guess at the direction of the parallel, it became necessary to have recourse to known stars occurring on the plate, in order to determine the "constants of the plate," and thereby deduce the "standard coordinates" of the various objects measured, *i.e.* rectangular coordinates referred to the projections, on a plane tangent to the sphere, of the hour circle and the great circle at right angles to it, passing through an origin supposed to represent the centre of the plate. In order to pass from one system of coordinates (x, y), resulting from the measures, and referred to an arbitrarily chosen origin and axes only oriented approximately, to another system (ξ, η) in a tangent plane to the sphere,

no system of formulæ seemed to me so convenient as that suggested by Dr. Rambaut, which I have accordingly employed.¹ I have hitherto only measured one plate of the nebula M. 33, taken at Dr. Roberts' observatory, Crowborough, Sussex, on the 27th December, 1899, the exposure being made from 2^h 33^m to 4^h 3^m, Sid. Time.

According to the method of reduction employed, we take a pair of known stars, or, better still, two pairs of stars, the right ascensions and declinations of which are known from meridian observations, and compute their standard coordinates ξ and η , taking refraction and aberration into account. The corrections for refraction are of the form

$$d\xi = -s[p\xi + q\eta], \quad d\eta = -s[q\xi + r\eta],$$

where the logarithms of the constants have the following values for the plate in question:—

$$\begin{aligned} \log p &= 9.9271 & \log r &= 9.9618 \\ \log q &= 9.0572 & \log s &= 6.5782 \end{aligned}$$

The corrections for aberration are

$$d\xi = [5.925]\xi, \quad d\eta = [5.925]\eta.$$

The following table gives the means of finding the corrections without computation:—

| ξ or η | Refraction. | | | Aberr. |
|-----------------|---------------------|----------------------------|---------------------|------------------------|
| | $s p \xi$ | $s q \xi$ or $s q \eta$ | $s r \eta$ | $d \xi$ or $d \eta$ |
| 100" | 0 ^o .032 | 0 ^o .004 | 0 ^o .035 | 0 ^o .008 |
| 200 | .064 | .009 | .069 | .017 |
| 300 | .096 | .013 | .104 | .025 |
| 400 | .128 | .017 | .159 | .034 |
| 500 | .160 | .022 | .173 | .042 |
| 600 | .192 | .026 | .208 | .050 |
| 700 | .224 | .030 | .243 | .059 |
| 800 | .256 | .034 | .278 | .067 |
| 900 | .288 | .039 | .312 | .076 |
| 1000 | .320 | .043 | .347 | .084 |
| 1100 | .352 | .048 | .381 | .092 |
| 1200 | .384 | .052 | .416 | .101 |
| 1300 | .416 | .056 | .451 | .109 |
| 1400 | .448 | .061 | .486 | .118 |
| 1500 | .480 | .065 | .521 | .126 |
| 1600 | .512 | .069 | .556 | .134 |
| 1700 | .544 | .073 | .590 | .143 |
| 1800 | .576 | .078 | .624 | .151 |

¹ Monthly Notices, R.A.S., vol. lvii., p. 591.

The origin of the ξ, η system is a point (A, D) supposed to represent fairly closely the centre of the plate. From the measures we have the coordinates x and y , expressed in seconds of arc by means of an approximate value of the screw-revolution (in this case $16''\cdot37$). We next compute the values of the following quantities, the indices 1 and 4 referring to the first pair of stars :

$$\begin{aligned}\tan \psi_{1,4} &= \frac{(\eta_1 - \eta_4) - (y_1 - y_4)}{(\xi_1 - \xi_4) - (x_1 - x_4)}, \\ \tan \theta_{1,4} &= \frac{y_1 - y_4}{x_1 - x_4}, \\ \mu &= \frac{(\eta_1 - \eta_4) - (y_1 - y_4)}{y_1 - y_4} \cdot \frac{\sin \theta}{\sin \psi}, \\ P &= \mu \cos (\psi - \theta), \\ Q &= \mu \sin (\psi - \theta).\end{aligned}$$

The coordinates of the "central star," the origin of the x, y system, referred to the standard axes through the point (A, D) are then found by means of either of the reference stars by the formulæ :

$$\begin{aligned}\bar{\xi} &= \xi - x(1 + P) + Qy, \\ \bar{\eta} &= \eta - y(1 + P) - Qx.\end{aligned}$$

The constants $P, Q, \bar{\xi}, \bar{\eta}$ derived from the two pairs of reference stars ought not to differ more *inter se* than the probable error in the coordinates of the stars will account for ; otherwise the point (A, D) is not near enough to the centre of the plate, and it becomes necessary to choose another point, and to try to obtain a better agreement.

.(2)

(4)•

••

•(1)

•(3)

North.



South.

On the plate in question there are four reference stars very conveniently situated, forming a quadrilateral with the nebula inside it. They all occur in Bessel's zones, but I have preferred only to make use of recent observations. The star (2), as well as three others, were kindly observed with the Dunsink Transit Circle by Mr. C. Martin. The star-places from the Astronomische Gesellschaft zones

have been corrected by the tables published by Professor Auwers (*Astr. Nachr.* 3842-44), a most necessary operation, since the systematic errors, particularly in the Cambridge zones, are very considerable. The following places are for 1890.0, the reductions to apparent place being given in the last column. The figures in brackets represent the number of observations.

(1) + 29° 256 Mag. 9.3 :

Leiden, 1^h 26^m 57^s.61 (2) - 30° 5' 20" 0 (2)

Cambridge, 57.67 (3) 10.6 (3)

Adopted, 1 26 57.65 - 30 5 19.70 - 4° 99' - 33" 17.

(2) + 30° 240 Mag. 9.9 :

Leiden, 1^h 27^m 42^s.21 (2) - 30° 25' 47" 0 (2)

Dunsink, 42.22 (4) 47.5 (4)

Adopted, 1 27 42.22 - 30 25 47.20 - 5° 01' - 33" 17.

(3) + 29° 260 Mag. 9.0 :

Cambridge, 1^h 27^m 56^s.56 (4) - 29° 52' 15" 3 (4)

Küstner, 56.44 (2) 15.44 (2)

Adopted, 1 27 56.50 - 29 52 15.37 - 5° 00' - 32" 99.

(4) + 29° 265 Mag. 9.2 :

Leiden, 1^h 29^m 35^s.44 (2) - 30° 9' 15" 8 (2)

Cambridge, 35.41 (9) 16.4 (9)

Bomburg, 35.51 (4) 16.9 (4)

Adopted, 1 29 35.49 - 30 9 16.53 - 5° 03' - 32" 96.

As the fourth star is below the ninth magnitude, I thought it best to omit the Cambridge observations, on account of their large systematic error depending on magnitude. As the centre of the plate I adopted

$$\begin{aligned} A &= 1^h 29^m 30^s.00 \\ D &= -30^\circ 6' 50'' 0 \end{aligned} \quad \left. \begin{array}{l} \\ \end{array} \right\} \text{Apparent Equinox.}$$

The following quantities were found:—

By stars (1) and (4) :

$$P = -0.000075, \quad Q = -0.002629, \quad \bar{\xi} = -107''.70, \quad \bar{\eta} = +7''.62.$$

By stars (2) and (3) :

$$P = -0.000428, \quad Q = -0.002559, \quad \bar{\xi} = -106''.57, \quad \bar{\eta} = +6''.84$$

As the values of ξ and η did not agree as well as I had hoped, I made a number of trials with different values of A and D , but was unable to obtain any better results. The somewhat heterogeneous material of meridian observations available, as well as the fact ascertained elsewhere,¹ that positions of stars of magnitudes 7 to 10 on long exposure plates taken with a reflector can only be measured with a probable error of about $0''.6$ in both coordinates, is amply sufficient to account for the differences found. Adopting the mean of the above values, viz. $P = -0.000252$, $Q = -0.002594$, $\xi = -107''.14$, $\eta = +7''.23$, and computing with these the standard coordinates of the four stars, and from them the apparent right ascensions and declinations, the following differences are found (Meridian minus Photograph):—

| | | |
|-----|--------|----------|
| (1) | - 0.06 | + 0''.40 |
| (2) | + 0.04 | - 0.62 |
| (3) | + 0.05 | + 0.18 |
| (4) | - 0.05 | + 0.35 |

In addition to these stars, there are five others on the plate, which have been observed on the meridian; but they are, with one exception, below the ninth magnitude, and are not well situated (four of them being close together), so that they are not suitable for the determination of the constants of the plate. I have, however, thought it would be of interest to compare the meridian observations with the photographic measures. The following star-places for 1899.0 were available, the zone results being again corrected by Auwers' table, and Bonn VI. being reduced to the same equinox as the others by Oertel's table in A. N. 2895.

- 30° 238 Mag. 9.5 :

Cambridge, $1^h 26^m 28.81$ (2) + $30^\circ 13' 57''.9$ (2)

Dunsink, 28.96 (4) 52.8 (4)

Adopted, 1 26 28.96 + 30 13 52.80 + $5^h 00 + 33''.19$.

- 30° 241 Mag. 9.5 :

Dunsink, $1^h 28^m 57.53$ (4) + $30^\circ 19' 36''.1$ (4) + $5^h 03 + 33''.04$.

¹ H. C. Plummer, Monthly Notices, vol. lxiii., p. 25.

+ 30°-243 Mag. 9.3:

| | | |
|------------|---|---------------------|
| Leiden, | 1 ^h 29 ^m 24 ^s .68 (4), | + 30° 15' 21".7 (4) |
| Cambridge, | 24.47 (2), | 15.6 (2) |
| Küstner, | 24.78 (2) | 21.1 (2) |

Adopted, 1 29 24.73 - 30 15 21.40 - 5^m.03 + 33^m.01.

+ 30°-245 Mag. 8.6:

| | | |
|------------|--|---------------------|
| Leiden, | 1 ^h 29 ^m 44 ^s .06 (2) | + 30° 15' 30".3 (2) |
| Cambridge, | 44.11 (2), | 29.4 (2) |
| Bonn VI., | 44.10 (2) | 31.0 (2) |

Adopted, 1 29 44.09 - 30 15 30.23 + 5^m.03 + 32^m.98.

+ 30°-247 Mag. 9.4:

Dunsink, 1^h 30^m 9^s.77 (4) + 30° 13' 55".10 (4) + 5^m.04 + 32^m.94.

These places are represented as follows (Mer.-Phot.) :—

| | | |
|-----------|----------------------|----------------------|
| + 30°-238 | - 0 ^m .12 | - 0 ^m .67 |
| 241 | - 0.02 | + 1.10 |
| 243 | - 0.14 | + 0.50 |
| 245 | - 0.12 | + 0.60 |
| 247 | - 0.08 | + 0.63 |

In order to form some idea of the accuracy of the directly measured coordinates x and y , I have computed the probable error of one determination of either coordinate from the differences between the single results, taking first the above-mentioned nine stars, next 100 stars described as pB or pF , and finally one hundred F or rF stars. These were chosen without any regard to the amount of difference between the results, but all objects which were described as nebulous "patches" or "knots" were excluded. The probable errors were found to be :—

| | |
|--|---------|
| For stars 8.0-9.5 mag., | ± 0".37 |
| For stars or stellar condensations, 11-12 mag. ± | ± 0.35 |
| For ditto. 13-14 mag. ± | ± 0.39 |

But obviously this does not properly represent the degree of accuracy of the work as far as the bright stars are concerned, since it is *a priori* to be expected that the bisection of the very large discs, produced by an exposure of the plate during an hour and a half, must be affected by systematic errors, particularly as some of the discs are not perfectly circular. For instance, on the plate measured, while

the star + 30°243 is perfectly round, its neighbour + 29°265 is slightly oval, while + 29°260 is round, but a little flattened on the north-preceding quadrant. But the small and well-defined discs of stars of about the 11–12 magnitudes can be bisected with great comfort and apparent certainty; and as regards them I should be disposed to think that the systematic errors, if existing, must be very small indeed. I may here mention that when assigning these magnitudes to the fainter objects, I do so on the assumption that the faintest objects measured are of the 15th magnitude. Dr. Roberts informs me that he has “some justification for designating the faintest stars on a plate exposed during 90^m on a clear night with the 20-inch reflector as of the 16–17 mag.” I have only used the ordinary mode of designating brightness followed by observers of nebulae *eeF*, *eeF*, *F*, *pF*, *pB*, *B*, and have assumed these to correspond approximately to the magnitudes 15, 14, 13, 12, 11, 10.

In addition to the nebula itself, the New General Catalogue and the Index Catalogue of Nebulae, found in the years 1888–94, contain a number of objects more or less involved in it. Of these, I could not identify I. C. 136, M. Bigourdan's No. 127, the place of which is for 1860 1^h 25^m 34^s + 29° 45', described as *eeF*, difficult, *10 np 3'. The “*S* neb. or cluster, with 3 *st* in it, about 8' *sep* a double star 11·11 mag.,” found at Birr Castle, and catalogued as N. G. C. 603, is outside the area covered by my measures; but the double star is on the plate close to the place indicated, and 6' *sep* it an *eeF* star is seen. M. Bigourdan's No. 125 is either an *eeF* star, or *eeS* nebula; it is 3' south of the star + 30°240, and about 0·6 following it. The other objects catalogued correspond to the objects measured by me as follows:—

| | |
|-----------------|----------|
| N. G. C. 588 | = No. 35 |
| „ 592 | No. 82 |
| Ind. Cat. (131) | No. 88 |
| „ (132) | No. 89 |
| „ (133) | No. 92 |
| „ (135) | No. 102 |
| N. G. C. 595 | No. 122 |
| Ind. Cat. (137) | No. 147 |
| „ (139) | No. 150 |
| „ (140) | No. 157 |
| „ (142) | No. 205 |
| „ (143) | No. 242 |
| N. G. C. 604 | No. 287 |

[illegible]

5-12-63.

CATALOGUE.

| No. | Description. | x | y | z | η | Meas. |
|-----|--------------------|----------|-----------|-----------|-----------|-------|
| 1 | B* [+ 29°-256], .. | -1700.28 | - 4.49 | -1807.00 | + 7.15 | 2.2 |
| 2 | B* [+ 30.238], .. | 1396.07 | + 449.06 | 1501.69 | + 459.80 | 2.2 |
| 3 | pF, .. | 1308.32 | - 122.69 | 1415.45 | - 112.04 | 2.1 |
| 4 | pB, .. | 1306.42 | - 876.13 | 1415.50 | - 865.29 | 2.2 |
| 5 | pB, .. | 1306.06 | + 1008.80 | 1410.28 | + 1019.17 | 2.2 |
| 6 | B, .. | 1294.78 | + 444.84 | 1400.44 | + 455.32 | 2.1 |
| 7 | pF, .. | 1249.54 | - 869.82 | 1358.62 | - 859.13 | 2.2 |
| 8 | vF, .. | 1248.21 | + 838.05 | 1352.86 | + 848.30 | 2.2 |
| 9 | pB or B, .. | 1238.46 | + 67.53 | 1345.11 | + 77.95 | 2.2 |
| 10 | pF, .. | 1220.14 | + 614.94 | 1325.38 | + 625.18 | 2.2 |
| 11 | vF, .. | 1208.30 | - 1042.08 | 1317.84 | - 1031.45 | 2.2 |
| 12 | vF, sf B* .. | 1204.12 | + 29.65 | 1310.88 | + 39.99 | 1.2 |
| 13 | pF, .. | 1193.31 | + 739.19 | 1298.23 | + 749.33 | 2.2 |
| 14 | pB, .. | 1185.58 | - 1284.46 | 1295.75 | - 1273.83 | 2.2 |
| 15 | F, .. | 1162.06 | - 875.49 | 1271.18 | - 865.02 | 2.2 |
| 16 | B, .. | 1153.76 | - 181.94 | 1261.08 | - 171.67 | 2.2 |
| 17 | eF, .. | 1127.00 | + 291.27 | 1233.10 | + 301.35 | 1.1 |
| 18 | F, ?neb., .. | 1104.11 | - 245.29 | 1211.61 | - 235.14 | 2.2 |
| 19 | F, .. | 1088.64 | - 70.88 | 1195.69 | - 60.81 | 2.2 |
| 20 | pB, .. | 1088.28 | + 708.16 | 1193.31 | + 718.04 | 2.2 |
| 21 | vF, .. | 1077.15 | + 494.91 | 1182.73 | + 504.81 | 2.1 |
| 22 | pF, ?neb., .. | 1075.84 | + 42.30 | 1182.60 | + 52.31 | 2.2 |
| 23 | F, irr., .. | 1074.93 | + 181.30 | 1181.33 | + 191.27 | 2.2 |
| 24 | pF, .. | 1071.63 | - 497.83 | 1179.79 | - 487.69 | 2.2 |
| 25 | eF - vF, .. | 1068.60 | + 764.02 | 1173.49 | + 773.83 | 2.2 |
| 26 | vF, .. | 1022.10 | - 1203.16 | 1132.10 | - 1192.98 | 2.2 |
| 27 | pB, .. | 1014.38 | - 1518.19 | 1125.20 | - 1507.95 | 2.1 |
| 28 | pB, .. | 1013.14 | - 450.66 | 1121.19 | - 440.69 | 2.2 |
| 29 | F, .. | 1001.46 | + 1353.57 | 1104.84 | + 1363.06 | 2.2 |
| 30 | F, .. | - 984.92 | + 1033.38 | - 1089.13 | + 1042.91 | 2.2 |

| No. | Description. | <i>x</i> | <i>y</i> | <i>z</i> | <i>η</i> | Meas. |
|-----|----------------------------|---------------------|---------------------|----------------------|---------------------|-------|
| 31 | F, | - 973 ³⁹ | - 636 ³⁹ | - 1081 ⁸³ | - 626 ⁴⁷ | 2.2 |
| 32 | F, tail sp., | 968.90 | - 759.48 | 1077.77 | - 749.54 | 2.2 |
| 33 | vF, | 960.72 | + 1409.81 | 1063.96 | + 1419.18 | 2.2 |
| 34 | pB, | 931.74 | + 592.97 | 1037.11 | + 602.47 | 2.2 |
| 35 | vF, pL, dif., mbM, .. | 921.45 | + 81.23 | 1038.14 | + 90.86 | 1.2 |
| 36 | eF, p dif. neb., .. | 917.13 | - 158.79 | 1024.45 | + 149.14 | 1.2 |
| 37 | F, | 913.93 | - 938.24 | 1023.27 | - 928.40 | 1.2 |
| 38 | vF or F, | 901.17 | + 1064.21 | 1005.32 | + 1073.51 | 2.2 |
| 39 | eF, dif., | 871.50 | + 1467.13 | 974.61 | + 1476.25 | 2.1 |
| 40 | eF, | 867.40 | + 455.80 | 973.14 | + 465.17 | 2.1 |
| 41 | eF, | 856.86 | - 713.13 | 965.64 | - 703.50 | 1.1 |
| 42 | vF, | 848.40 | + 956.02 | 952.84 | + 965.21 | 1.2 |
| 43 | eF, | 838.99 | - 811.52 | 948.02 | - 801.91 | 2.1 |
| 44 | eF, | 837.88 | - 47.00 | 944.93 | - 37.58 | 1.1 |
| 45 | eF, | 817.52 | - 641.98 | 926.12 | - 632.47 | 1.1 |
| 46 | vF, | 805.89 | + 1101.98 | 909.97 | + 1111.02 | 2.3 |
| 47 | eF, | 803.41 | + 1151.74 | 907.36 | + 1160.76 | 1.1 |
| 48 | vF, | 799.91 | + 1268.38 | 903.56 | + 1277.37 | 2.2 |
| 49 | eF, pL, irr. (2 others p), | 797.79 | - 119.66 | 905.04 | - 110.33 | 1.1 |
| 50 | eF, pL, irr., .. | 791.05 | - 185.80 | 898.47 | - 176.47 | 1.1 |
| 51 | oF, | 788.29 | - 695.52 | 897.03 | - 686.07 | 2.1 |
| 52 | eF, | 787.53 | - 600.15 | 896.03 | - 590.73 | 1.1 |
| 53 | B, | 779.29 | - 1311.81 | 889.64 | - 1302.23 | 2.2 |
| 54 | pB, | 775.53 | - 874.68 | 884.74 | - 865.22 | 2.2 |
| 55 | pF or F, | 766.03 | + 917.49 | 870.60 | + 926.48 | 2.2 |
| 56 | eF, | 764.56 | - 808.26 | 873.60 | - 798.84 | 2.1 |
| 57 | pB, | 756.67 | + 386.82 | 862.62 | + 395.92 | 2.2 |
| 58 | pF, | 751.01 | - 981.32 | 860.51 | - 971.89 | 2.2 |
| 59 | eF, | 750.44 | + 1063.18 | 854.63 | + 1072.09 | 1.1 |
| 60 | eF, | 738.75 | - 850.03 | 847.91 | - 840.67 | 2.1 |
| 61 | vF, | 737.85 | + 298.78 | 844.03 | + 307.85 | 2.2 |
| 62 | eF, R, | 734.92 | - 197.59 | 842.39 | - 188.40 | 1.1 |
| 63 | eF kn, n of 2, .. | 733.01 | - 150.70 | 840.36 | - 141.53 | 1.1 |
| 64 | eF, | 732.89 | - 1239.50 | 843.06 | - 1230.06 | 2.1 |
| 65 | F, pL, oval spnf, .. | 731.10 | - 403.03 | 839.10 | - 393.80 | 2.2 |
| 66 | vF or F, | - 729.04 | - 1164.79 | - 839.02 | - 1155.38 | 2.2 |

| No. | Description. | α | γ | δ | η | Meas. |
|-----|-----------------------------------|----------|-----------|----------|-----------|-------|
| 67 | vF, | - 712.76 | + 1389.29 | - 816.12 | + 1398.02 | 1.1 |
| 68 | pF nebs. *, .. | 702.53 | - 184.00 | 809.97 | - 174.90 | 2.2 |
| 69 | F, | 690.16 | - 984.30 | 799.68 | - 975.03 | 1.2 |
| 70 | eF, | 651.94 | - 681.89 | 760.68 | - 672.80 | 2.1 |
| 71 | B, | 651.92 | + 570.11 | 757.42 | + 578.89 | 2.2 |
| 72 | eF kn, ? app. n, .. | 651.63 | + 306.60 | 757.81 | + 315.44 | 1.1 |
| 73 | pB, sf of 2, .. | 645.18 | + 519.22 | 750.81 | + 527.99 | 2.2 |
| 74 | eF, | 643.83 | - 1088.64 | 753.63 | - 1079.46 | 1.1 |
| 75 | eF, | 606.62 | + 253.15 | 712.95 | + 261.89 | 1.1 |
| 76 | pF, | 602.61 | + 461.63 | 708.40 | + 470.31 | 2.2 |
| 77 | vF, | 600.73 | + 681.71 | 705.95 | + 690.33 | 2.1 |
| 78 | vF, | 599.14 | - 192.68 | 706.63 | - 183.85 | 2.1 |
| 79 | pB, detached tails pf, .. | 594.31 | - 459.15 | 702.49 | - 450.26 | 2.2 |
| 80 | pF, np of 2 in neb., .. | 591.94 | + 80.87 | 698.72 | + 89.62 | 2.2 |
| 81 | vF, pL, R, neby n } and np, } | 591.58 | - 848.82 | 700.77 | - 839.84 | 2.2 |
| 82 | pB, sf of close D, .. | 582.37 | + 68.35 | 689.18 | + 77.07 | 2.2 |
| 83 | eF, | 580.65 | + 647.39 | 685.96 | + 655.96 | 1.1 |
| 84 | eF, | 565.64 | - 1484.53 | 676.49 | - 1475.46 | 2.1 |
| 85 | pB, | 564.15 | + 1308.31 | 667.75 | + 1316.67 | 2.2 |
| 86 | pB, np of 2, .. | 563.25 | + 1116.24 | 667.35 | + 1124.65 | 2.2 |
| 87 | pB, sf of 2, .. | 556.09 | + 1108.04 | 660.22 | + 1116.43 | 2.2 |
| 88 | eF, pL, R, .. | 551.91 | + 451.67 | 657.74 | + 460.12 | 1.1 |
| 89 | eF, ? e, .. | 547.12 | + 1150.86 | 651.14 | + 1159.22 | 2.1 |
| 90 | F, | 543.81 | + 1058.78 | 648.07 | + 1067.15 | 2.2 |
| 91 | F, | 542.09 | + 183.28 | 648.62 | + 191.87 | 2.2 |
| 92 | eF kn, } conn ^d , { .. | 541.13 | + 970.74 | 645.62 | + 979.13 | 1.1 |
| 93 | vF, } | 539.06 | + 913.68 | 643.69 | + 922.08 | 2.1 |
| 94 | F, | 537.70 | - 567.90 | 646.18 | - 559.13 | 2.2 |
| 95 | F, | 533.42 | + 397.53 | 639.39 | + 406.04 | 2.3 |
| 96 | eF, pL, tails f, .. | 530.88 | - 321.83 | 638.72 | - 313.14 | 1.1 |
| 97 | pF, | 515.30 | + 629.33 | 620.68 | + 637.74 | 2.2 |
| 98 | eF, nf of 2, .. | 507.50 | - 553.62 | 615.95 | - 544.93 | 1.1 |
| 99 | F, | 495.03 | - 224.18 | 602.63 | - 215.61 | 2.2 |
| 100 | eF, pL (neby around), | 490.56 | + 116.74 | 597.27 | + 125.21 | 1.1 |
| 101 | eF, | - 476.11 | - 845.59 | - 585.32 | - 836.91 | 1.1 |

| No. | Description. | x | y | z | η | Meas. |
|-----|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| 102 | eF, kn, | - 467 ^h 16 | - 665 ^h 52 | - 575 ^h 91 | - 656 ^h 91 | 2·2 |
| 103 | F, | 465·63 | - 1110·68 | 575·53 | - 1101·96 | 2·2 |
| 104 | F, | 450·54 | - 1310·01 | 560·96 | - 1301·28 | 2·2 |
| 105 | vB* [+ 30°·240], .. | 449·65 | + 1163·16 | 553·66 | + 1171·26 | 2·2 |
| 106 | pF, compn. to B*, .. | 416·29 | + 1174·83 | 520·28 | + 1182·85 | 2·2 |
| 107 | eF, | 387·26 | + 19·50 | 494·35 | + 27·73 | 1·1 |
| 108 | eF, | 379·65 | + 214·25 | 486·14 | + 222·41 | 1·1 |
| 109 | eF, kn, | 373·90 | + 611·47 | 479·36 | + 619·52 | 1·1 |
| 110 | eF, pL, dif., .. | 366·03 | + 175·82 | 472·62 | + 183·96 | 1·1 |
| 111 | eF, | 361·73 | + 1068·98 | 466·01 | + 1076·88 | 1·1 |
| 112 | eF, | 354·16 | - 953·62 | 463·69 | - 945·23 | 2·1 |
| 113 | vF, | 353·95 | - 345·16 | 461·90 | - 336·92 | 2·1 |
| 114 | pB, | 352·02 | + 793·07 | 457·01 | + 801·01 | 1·2 |
| 115 | vF, dif., | 350·22 | - 669·71 | 459·01 | - 661·40 | 3·2 |
| 116 | eF, | 344·15 | + 1486·03 | 447·35 | + 1493·78 | 1·1 |
| 117 | F, | 334·72 | - 1117·25 | 444·67 | - 1108·87 | 2·2 |
| 118 | F, sp a B*, .. | 330·38 | - 873·99 | 439·70 | - 865·68 | 2·2 |
| 119 | eF, vS, | 327·56 | + 103·72 | 434·35 | + 111·77 | 1·2 |
| 120 | vF, S, R, | 322·98 | - 113·23 | 430·33 | - 105·13 | 1·2 |
| 121 | eeF kn, | 311·16 | + 587·52 | 416·70 | + 595·41 | 1·1 |
| 122 | pF, vL, lE np sf, .. | 311·03 | + 240·43 | 417·47 | + 248·41 | 1·2 |
| 123 | eF, | 308·66 | + 611·75 | 414·14 | + 619·63 | 1·1 |
| 124 | eF, pS kn, | 300·72 | - 323·47 | 408·62 | - 315·38 | 2·1 |
| 125 | F, pL, irr., .. | 296·66 | - 215·92 | 404·29 | - 207·87 | 1·2 |
| 126 | eF, vS, | 296·13 | + 90·43 | 402·96 | + 98·41 | 1·1 |
| 127 | F, | 295·58 | + 501·33 | 401·35 | + 509·20 | 2·2 |
| 128 | pF, | 295·37 | - 592·94 | 403·67 | - 584·79 | 2·2 |
| 129 | vF, pL, dif., .. | 294·73 | + 1389·93 | 398·19 | + 1397·57 | 1·2 |
| 130 | F, | 290·93 | + 1222·45 | 394·84 | + 1230·13 | 1·2 |
| 131 | eF, | 288·68 | + 650·71 | 394·06 | + 658·52 | 1·1 |
| 132 | vF kn, | 284·84 | + 64·89 | 391·74 | + 72·75 | 2·1 |
| 133 | vF, | 280·83 | - 1208·80 | 391·03 | - 1200·54 | 2·1 |
| 134 | eF, sf of 2, | 277·91 | + 1188·67 | 381·90 | + 1196·32 | 1·1 |
| 135 | eF, | 277·80 | + 788·30 | 382·82 | + 796·05 | 1·1 |
| 136 | F, tail s, | 275·54 | + 816·02 | 380·49 | + 823·76 | 2·2 |
| 137 | vB* [+ 29°·260], .. | - 261·92 | - 849·11 | - 371·20 | - 841·41 | 2·2 |

| No. | Description. | x | y | z | η | Meas. |
|-----|--|----------|-----------|----------|-----------|-------|
| 138 | eF kn, | - 258.19 | + 462.12 | - 364.07 | + 470.00 | 1.1 |
| 139 | pB, tails np and sp, .. | 254.75 | - 45.97 | 361.95 | - 38.07 | 2.2 |
| 140 | eF, | 254.72 | + 613.39 | 360.20 | + 621.12 | 1.1 |
| 141 | pF, L, on p edge of } L group, | 253.48 | + 330.96 | 359.70 | + 338.76 | 2.2 |
| 142 | vF, | 248.94 | + 1353.92 | 352.51 | + 1361.46 | 1.1 |
| 143 | eF, | 241.59 | + 388.28 | 347.66 | + 396.04 | 1.1 |
| 144 | eF, | 237.99 | + 488.81 | 343.80 | + 496.53 | 1.1 |
| 145 | vF kn, sp of 2, .. | 237.78 | + 34.21 | 344.77 | + 42.05 | 2.1 |
| 146 | eF kn, | 237.37 | - 295.48 | 345.22 | - 287.56 | 2.1 |
| 147 | vF, pL, tails, .. | 233.65 | - 367.63 | 341.68 | - 359.70 | 2.2 |
| 148 | vF, nf of 2, .. | 228.77 | + 53.27 | 335.71 | + 61.08 | 2.1 |
| 149 | pF, p of 2, .. | 227.62 | + 956.16 | 332.22 | + 963.74 | 2.2 |
| 150 | pF, sp of 2, .. | 224.51 | - 526.22 | 332.96 | - 518.27 | 2.2 |
| 151 | vF kn, | 223.85 | + 324.67 | 330.09 | + 332.40 | 1.1 |
| 152 | pF or pB, | 218.01 | - 1097.69 | 327.94 | - 1089.62 | 2.2 |
| 153 | vF, af B*, | 208.47 | - 893.74 | 317.87 | - 885.74 | 2.1 |
| 154 | vF, L, dif., .. | 207.70 | + 255.05 | 314.12 | + 262.76 | 1.1 |
| 155 | eF kn, | 206.85 | - 311.69 | 314.74 | - 303.85 | 1.1 |
| 156 | eF kn, | 203.12 | + 479.48 | 308.96 | + 487.11 | 1.1 |
| 157 | pF, nf of 2, .. | 200.11 | - 494.63 | 308.48 | - 486.76 | 2.2 |
| 158 | eF kn, | 194.58 | - 274.36 | 302.38 | - 266.55 | 2.1 |
| 159 | eF kn, | 192.54 | + 350.60 | 298.72 | + 358.24 | 1.1 |
| 160 | B, | 192.35 | + 540.24 | 298.04 | + 547.83 | 2.2 |
| 161 | eF kn, conn ^d . with } f mass, | 191.86 | + 428.24 | 297.84 | + 435.85 | 1.1 |
| 162 | F, f of 2, | 191.38 | + 957.78 | 295.99 | + 965.26 | 2.2 |
| 163 | F, pS, tail sp, .. | 188.48 | + 94.83 | 295.33 | + 102.52 | 2.1 |
| 164 | eF, | 188.36 | - 1255.09 | 298.71 | - 1247.06 | 2.2 |
| 165 | vF, | 183.05 | - 1396.15 | 293.77 | - 1388.09 | 2.1 |
| 166 | pB, | 176.52 | - 141.70 | 283.98 | - 133.98 | 2.2 |
| 167 | eF, v dif., | 175.49 | - 341.32 | 283.47 | - 333.55 | 2.1 |
| 168 | vF, pL, | 174.26 | + 1483.61 | 277.51 | + 1490.92 | 1.1 |
| 169 | vF, | 173.59 | + 1123.36 | 277.77 | + 1130.77 | 2.1 |
| 170 | vF kn, | 172.79 | + 221.52 | 279.31 | + 229.14 | 2.1 |
| 171 | eF, | - 167.84 | - 93.96 | - 275.18 | - 86.27 | 1.1 |

| No. | Description. | x | y | z | η | Meas. |
|-----|-----------------------------------|------------------------|------------------------|------------------------|------------------------|-------|
| 172 | eeF, | - 167 ^{''} 79 | + 614 ^{''} 53 | - 273 ^{''} 29 | + 622 ^{''} 04 | 1.1 |
| 173 | vF, n end of mass, .. | 166.97 | + 426.44 | 272.96 | + 434.00 | 1.1 |
| 174 | pF, pL, R, | 164.34 | - 62.90 | 271.60 | - 55.23 | 2.2 |
| 175 | B, | 150.62 | + 1020.88 | 255.07 | + 1028.24 | 2.2 |
| 176 | vF, n of B*, | 148.76 | + 1044.08 | 253.15 | + 1051.43 | 2.2 |
| 177 | vF, vS, nf of 2, .. | 148.66 | - 37.42 | 255.86 | - 29.80 | 2.1 |
| 178 | pF, | 140.25 | + 527.57 | 245.99 | + 535.03 | 2.2 |
| 179 | vF, | 125.67 | - 266.66 | 233.47 | - 259.04 | 2.1 |
| 180 | eF, pL, | 114.52 | + 291.19 | 220.88 | + 298.64 | 1.1 |
| 181 | vF kn, | 112.95 | + 860.32 | 217.83 | + 867.62 | 2.1 |
| 182 | vF, pL, | 107.93 | + 455.25 | 213.86 | + 462.65 | 1.1 |
| 183 | pB, | 103.26 | - 51.78 | 210.51 | - 44.27 | 2.2 |
| 184 | vF, pL, | 99.42 | + 208.16 | 206.00 | + 215.60 | 2.1 |
| 185 | vF, | 99.04 | + 1032.26 | 203.48 | + 1039.49 | 1.1 |
| 186 | F, inv. in neby, s one } of 4, | 91.79 | + 63.08 | 198.74 | + 70.53 | 2.2 |
| 187 | F, p one of 4, | 87.68 | + 123.60 | 194.48 | + 131.09 | 2.2 |
| 188 | eF, | 80.57 | - 320.36 | 188.52 | - 312.84 | 2.1 |
| 189 | eF, pL, | 76.14 | + 345.90 | 182.36 | + 353.24 | 2.2 |
| 190 | eF, | 75.46 | + 1356.85 | 179.06 | + 1363.93 | 1.1 |
| 191 | pB, | 72.22 | - 1330.67 | 182.79 | - 1322.92 | 2.2 |
| 192 | eF, pL, | 69.90 | + 380.93 | 176.03 | + 388.25 | 1.2 |
| 193 | pB, | 69.11 | + 1489.21 | 172.37 | + 1496.24 | 2.2 |
| 194 | vF, dif., | 63.27 | + 447.13 | 169.23 | + 454.41 | 1.2 |
| 195 | F (eF comp. sp), .. | 62.98 | + 768.59 | 168.11 | + 775.79 | 2.2 |
| 196 | pB, n one of 4, | 55.54 | + 166.03 | 162.23 | + 173.36 | 2.2 |
| 197 | vF, pL, | 53.12 | - 123.60 | 160.56 | - 116.26 | 1.1 |
| 198 | pF, ill def., | 51.90 | - 25.28 | 159.09 | - 17.85 | 2.2 |
| 199 | pB, | 51.01 | + 670.48 | 156.40 | + 677.67 | 2.2 |
| 200 | pF, | 48.78 | - 188.78 | 156.40 | - 181.38 | 1.2 |
| 201 | F, f one of 4. | 44.55 | + 111.55 | 151.39 | + 118.87 | 2.1 |
| 202 | eF, oval pf, | 41.91 | - 262.25 | 149.72 | - 254.84 | 1.1 |
| 203 | eF (? *), | 36.36 | + 1325.64 | 140.05 | + 1332.63 | 1.1 |
| 204 | pF, | 33.61 | + 1440.79 | 137.00 | + 1447.74 | 3.2 |
| 205 | pB, pL, E sp nf, bM, | 26.90 | + 478.57 | 132.79 | + 485.75 | 3.2 |
| 206 | eF (? *), | - 21.87 | + 1363.31 | - 125.47 | + 1370.25 | 1.1 |

| No. | Description. | <i>x</i> | <i>y</i> | ξ | η | Meas. |
|-----|-------------------------|----------|-----------|----------|-----------|-------|
| 207 | eF, | - 17.76 | - 599.33 | - 126.45 | - 591.90 | 1.1 |
| 208 | vF kn, | 11.15 | + 317.73 | 117.46 | + 324.91 | 2.1 |
| 209 | eF, | - 5.03 | + 898.71 | 109.84 | + 905.71 | 1.1 |
| 210 | pF, | 0.00 | 0.00 | 107.14 | + 7.23 | — |
| 211 | vF, | + 4.03 | + 1482.75 | 99.26 | + 1489.60 | 1.1 |
| 212 | F, dif, | 4.86 | - 1143.44 | 105.24 | - 1135.94 | 2.2 |
| 213 | F, pL, tails ns, .. | 5.67 | - 264.57 | 102.16 | - 257.29 | 2.2 |
| 214 | vF, pS, in L neby, .. | 13.20 | - 123.52 | 94.26 | - 116.29 | 2.2 |
| 215 | vF, pS, in train sp nf, | 23.68 | + 500.44 | 82.17 | + 507.48 | 1.1 |
| 216 | eF, | 25.79 | + 232.13 | 80.75 | + 239.24 | 1.1 |
| 217 | pF, v irr., | 31.26 | - 207.80 | 76.43 | - 200.60 | 1.2 |
| 218 | eF kn, | 33.92 | - 867.89 | 75.48 | - 860.53 | 1.1 |
| 219 | vF, | 36.34 | - 484.23 | 72.07 | - 476.97 | 1.1 |
| 220 | pB, | 50.15 | - 977.09 | 59.54 | - 969.74 | 2.2 |
| 221 | vF, | 50.44 | - 511.91 | 58.04 | - 504.69 | 2.2 |
| 222 | eF, pL, dif., | 61.31 | + 15.06 | 45.81 | + 22.09 | 2.1 |
| 223 | eF, | 61.78 | + 883.98 | 42.64 | + 890.83 | 1.1 |
| 224 | F, tail np, | 65.97 | - 129.16 | 41.52 | - 122.07 | 2.2 |
| 225 | pF, | 66.30 | + 400.58 | 39.82 | + 407.54 | 2.2 |
| 226 | eF, | 73.66 | - 490.45 | 24.77 | - 483.53 | 1.1 |
| 227 | pF, | 83.34 | + 1182.97 | 20.75 | + 1189.68 | 2.2 |
| 228 | pF, | 87.33 | - 761.54 | 21.81 | - 754.35 | 2.2 |
| 229 | eF (eeF close np), .. | 101.87 | + 730.43 | 3.40 | + 737.21 | 1.1 |
| 230 | eF, | 102.96 | + 394.27 | - 3.13 | + 401.13 | 2.2 |
| 231 | vF, pL, E sp nf, .. | 112.46 | + 256.96 | + 5.96 | + 263.83 | 2.2 |
| 232 | F, pL, | 114.92 | + 596.93 | 9.30 | + 603.71 | 2.2 |
| 233 | pF, | 120.50 | - 109.92 | 13.05 | - 102.97 | 2.3 |
| 234 | eF, vS, | 123.43 | + 886.93 | 18.56 | + 893.62 | 1.1 |
| 235 | pB, | 129.48 | - 1148.73 | 19.93 | - 1141.55 | 2.2 |
| 236 | F, | 139.64 | - 1370.35 | 28.91 | - 1363.14 | 2.2 |
| 237 | eF, pL, R, | 139.64 | + 546.01 | 33.88 | + 552.74 | 2.1 |
| 238 | F, | 142.65 | - 481.85 | 34.22 | - 474.87 | 2.2 |
| 239 | eF, | 153.79 | + 367.38 | 47.56 | + 374.12 | 3.1 |
| 240 | eF, vS, | 163.15 | + 498.57 | 57.26 | + 505.25 | 2.1 |
| 241 | vF, | 166.97 | + 725.54 | 61.67 | + 732.15 | 2.1 |
| 242 | vF, pL, | + 170.08 | + 542.99 | + 64.31 | + 549.64 | 2.1 |

| No. | Description. | x | y | z | v | Meas. |
|-----|--------------------------|----------|-----------|----------|-----------|-------|
| 243 | pF, pL, irr., .. | + 170.58 | + 210.06 | + 63.94 | + 216.80 | 2.2 |
| 244 | F, | 171.43 | - 171.97 | 63.80 | - 165.14 | 2.2 |
| 245 | pB, | 173.16 | - 752.33 | 64.02 | - 745.36 | 2.2 |
| 246 | eF, | 178.92 | - 516.31 | 70.39 | - 509.41 | 1.1 |
| 247 | F, vS, | 183.07 | + 898.55 | 78.22 | + 905.08 | 1.1 |
| 248 | pF, | 189.24 | - 561.49 | 80.60 | - 554.61 | 1.2 |
| 249 | pF mech. *, p a loop, .. | 196.18 | + 538.53 | 90.39 | + 545.11 | 2.2 |
| 250 | eF, | 197.42 | + 981.22 | 92.78 | + 987.69 | 1.1 |
| 251 | eF, | 218.87 | + 1280.28 | 115.00 | + 1286.62 | 1.1 |
| 252 | eF, | 220.72 | + 1034.26 | 116.21 | + 1040.66 | 1.1 |
| 253 | vF, | 226.09 | + 374.87 | 119.87 | + 381.42 | 3.2 |
| 254 | F, pL, Ena, .. | 229.42 | - 18.17 | 122.18 | - 11.53 | 2.2 |
| 255 | vF, | 235.56 | - 226.34 | 127.77 | - 219.66 | 2.1 |
| 256 | vF, pL, dif., .. | 237.37 | + 865.59 | 132.42 | + 871.99 | 2.2 |
| 257 | eF, | 242.99 | + 966.65 | 138.29 | + 973.00 | 1.1 |
| 258 | vF, mbM, | 249.44 | - 362.96 | 141.30 | - 356.29 | 2.2 |
| 259 | vF, | 259.55 | - 1372.30 | 148.79 | - 1365.40 | 2.1 |
| 260 | eF (eeF sp), .. | 270.27 | - 757.86 | 161.10 | - 751.14 | 1.1 |
| 261 | pB, | 295.28 | + 629.72 | 189.70 | + 636.03 | 2.2 |
| 262 | vF, | 300.13 | - 1011.92 | 190.29 | - 1005.21 | 1.1 |
| 263 | vF, | 303.08 | - 46.69 | 195.74 | - 40.23 | 2.1 |
| 264 | vF, s of 2, | 303.93 | - 123.23 | 196.39 | - 116.76 | 2.3 |
| 265 | eF, spp B *, .. | 304.29 | - 407.77 | 196.02 | - 401.23 | 1.1 |
| 266 | eF, pL, R, n of B*, .. | 308.50 | - 310.77 | 200.47 | - 304.26 | 2.1 |
| 267 | B, | 314.86 | - 361.34 | 206.70 | - 354.84 | 2.2 |
| 268 | F, E, | 322.07 | + 1069.16 | 217.62 | + 1075.28 | 2.2 |
| 269 | vF, pL, | 325.18 | + 256.80 | 218.62 | + 262.12 | 2.2 |
| 270 | eF, | 349.76 | - 725.65 | 240.65 | - 719.04 | 1.1 |
| 271 | pB or B, | 358.15 | + 1238.31 | 254.13 | + 1244.30 | 2.2 |
| 272 | pF, | 365.74 | - 1437.70 | 254.78 | - 1431.06 | 2.2 |
| 273 | eF, | 369.96 | + 334.93 | 263.60 | + 341.12 | 1.1 |
| 274 | eF, | 370.09 | + 1306.54 | 266.25 | + 1312.48 | 2.1 |
| 275 | vF, | 390.46 | + 66.30 | 283.39 | + 72.50 | 2.2 |
| 276 | vF, vS, | 393.86 | - 71.72 | 286.43 | - 65.49 | 2.2 |
| 277 | vF, | 405.86 | + 1064.79 | 301.38 | + 1070.70 | 1.1 |
| 278 | eF, | + 411.95 | + 4.58 | + 304.71 | + 10.74 | 1.1 |

| No. | Description. | <i>x</i> | <i>y</i> | <i>ξ</i> | <i>η</i> | Meas. |
|-----|--|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| 279 | vF, pL, Ens., .. | + 417 ^h 27 | + 193 ^m 61 | + 310 ^s 53 | + 199 ^s 71 | 2.2 |
| 280 | F, | 419.23 | - 514.63 | 310.65 | - 508.36 | 2.3 |
| 281 | eF, dif., | 422.84 | - 204.30 | 315.06 | - 198.12 | 2.2 |
| 282 | F or pF, | 432.33 | - 1394.93 | 321.68 | - 1388.47 | 2.2 |
| 283 | vF, | 434.27 | + 906.18 | 329.37 | + 912.06 | 1.1 |
| 284 | F, | 439.55 | + 493.00 | 333.58 | + 498.96 | 2.2 |
| 285 | eF, | 439.83 | + 230.19 | 333.18 | + 236.22 | 2.1 |
| 286 | pF, | 442.19 | + 63.76 | 335.10 | + 69.83 | 2.2 |
| 287 | { B neb., v bad. def. } { eF * close np, inv. } | 445.65 | + 576.22 | 339.89 | + 582.15 | 2.2 |
| 288 | vF, dif., | 446.54 | - 14.69 | 339.25 | - 8.61 | 2.1 |
| 289 | pF, | 448.08 | + 1226.42 | 344.01 | + 1232.18 | 2.2 |
| 290 | eF, | 457.05 | + 318.50 | 350.62 | + 324.46 | 2.1 |
| 291 | vF, dif., | 477.11 | - 901.55 | 367.51 | - 895.33 | 2.1 |
| 292 | vF, | 480.90 | + 979.01 | 376.18 | + 984.74 | 1.1 |
| 293 | pF, | 497.73 | + 930.46 | 392.88 | + 936.16 | 3.2 |
| 294 | pB, af of 2, .. | 501.28 | + 535.54 | 395.85 | + 541.33 | 2.2 |
| 295 | pF, | 504.20 | - 961.38 | 394.44 | - 955.21 | 2.2 |
| 296 | pF, | 513.97 | - 1153.72 | 403.71 | - 1147.53 | 2.2 |
| 297 | pB, nnp of 2, .. | 514.20 | + 842.32 | 409.12 | + 848.00 | 2.2 |
| 298 | eF, | 517.45 | - 981.50 | 407.63 | - 975.36 | 2.1 |
| 299 | pF, | 517.66 | - 1398.51 | 406.76 | - 1392.27 | 2.2 |
| 300 | eF, | 520.98 | + 81.73 | 413.92 | + 87.59 | 2.1 |
| 301 | B * [30°-241], .. | 526.84 | + 792.41 | 421.62 | + 798.07 | 2.2 |
| 302 | F, sp end of dif. neb., | 529.24 | + 392.06 | 422.98 | + 397.82 | 2.1 |
| 303 | vF, | 540.37 | + 59.87 | 433.25 | + 65.68 | 2.1 |
| 304 | n end of LB neb., .. | 541.19 | + 267.98 | 434.61 | + 273.74 | 1.1 |
| 305 | F, | 544.00 | + 1231.29 | 439.92 | + 1236.80 | 1.1 |
| 306 | vF, | 545.94 | + 515.11 | 440.00 | + 520.79 | 2.1 |
| 307 | pB, | 552.03 | + 147.54 | 445.13 | + 153.33 | 2.2 |
| 308 | vF, dif., | 554.24 | - 265.34 | 446.27 | - 259.48 | 2.2 |
| 309 | eF, | 565.10 | - 1076.48 | 455.02 | - 1070.70 | 1.1 |
| 310 | eF, | 575.33 | + 1431.75 | 471.76 | + 1437.13 | 1.1 |
| 311 | eF, | 578.09 | - 1285.05 | 467.47 | - 1278.99 | 2.1 |
| 312 | F, | 583.03 | + 67.53 | 475.92 | + 73.23 | 2.2 |
| 313 | B, | + 585.95 | - 717.72 | + 476.80 | - 711.83 | 3.2 |

| No. | Description. | x | y | z | η | Meas. |
|-----|-----------------------|----------|-----------|----------|-----------|-------|
| 314 | pF, sp of 2, .. | + 594.16 | + 714.55 | + 488.82 | + 720.06 | 2.3 |
| 315 | pF, nf of 2, .. | 602.21 | + 739.54 | 496.84 | + 745.02 | 2.2 |
| 316 | F, | 604.89 | - 461.36 | 496.40 | - 455.58 | 2.2 |
| 317 | pF, | 605.28 | + 1049.23 | 500.71 | + 1054.63 | 2.2 |
| 318 | pF, | 605.74 | + 376.41 | 499.42 | + 381.98 | 2.2 |
| 319 | F (np end), .. | 607.13 | - 1401.73 | 496.20 | - 1395.72 | 2.2 |
| 320 | eF, | 620.26 | - 552.52 | 511.53 | - 546.77 | 1.1 |
| 321 | eF, | 620.83 | + 915.18 | 515.91 | + 920.57 | 1.1 |
| 322 | pB, | 626.64 | - 878.93 | 517.06 | - 873.10 | 3.2 |
| 323 | pB, | 629.91 | + 1142.79 | 525.58 | + 1148.10 | 2.2 |
| 324 | eF, | 638.13 | - 267.12 | 530.14 | - 261.48 | 2.1 |
| 325 | eF, dif., | 652.10 | + 2.29 | 544.80 | + 7.83 | 2.1 |
| 326 | vF, | 652.94 | + 1236.61 | 548.84 | + 1241.84 | 1.2 |
| 327 | pB, | 678.00 | - 483.90 | 569.43 | - 478.30 | 3.2 |
| 328 | eF, | 683.74 | + 1130.73 | 579.36 | + 1135.90 | 1.1 |
| 329 | pF, | 688.18 | + 903.83 | 583.21 | + 909.05 | 2.2 |
| 330 | F (eeF close spp), .. | 695.89 | + 583.56 | 590.09 | + 588.84 | 1.2 |
| 331 | vF, | 697.80 | + 144.86 | 590.86 | + 150.24 | 2.1 |
| 332 | eF, vS, | 701.10 | - 155.35 | 593.38 | - 149.90 | 1.1 |
| 333 | pB, | 715.76 | - 552.21 | 607.01 | - 546.70 | 3.2 |
| 334 | eF, | 736.90 | + 230.16 | 630.17 | + 235.42 | 1.1 |
| 335 | pF, | 760.13 | - 453.36 | 651.62 | - 447.99 | 3.2 |
| 336 | F, | 760.18 | - 412.00 | 651.78 | - 406.64 | 2.2 |
| 337 | eF, | 761.21 | + 542.26 | 655.29 | + 547.38 | 1.1 |
| 338 | F, | 766.07 | + 669.32 | 660.47 | + 674.39 | 2.2 |
| 339 | F, | 780.58 | + 386.61 | 674.24 | + 391.72 | 2.2 |
| 340 | eF, vS, | 782.65 | + 257.34 | 675.98 | + 262.49 | 1.2 |
| 341 | eF, | 796.51 | - 680.26 | 687.40 | - 674.93 | 2.1 |
| 342 | vF, p of 2, | 796.73 | - 1119.05 | 686.48 | - 1113.60 | 1.2 |
| 343 | vF, dif., | 802.64 | - 626.63 | 693.87 | - 621.32 | 2.1 |
| 344 | pF, | 808.48 | + 462.34 | 702.34 | + 467.36 | 2.2 |
| 345 | eF, dif., | 808.68 | - 597.54 | 699.79 | - 592.26 | 2.1 |
| 346 | pB, | 813.45 | + 731.65 | 708.00 | + 736.59 | 2.2 |
| 347 | pB, | 832.06 | + 1099.36 | 727.56 | + 1104.15 | 2.3 |
| 348 | B, np of 2, | 838.71 | - 1099.98 | 728.51 | - 1094.64 | 2.2 |
| 349 | vF, | + 842.34 | - 314.01 | + 734.17 | - 308.89 | 2.2 |

| No. | Description. | α | γ | ξ | η | Meas. |
|-----|---------------------|-----------------------|------------------------|-----------------------|------------------------|-------|
| 350 | pF, | + 858 ^h 20 | + 1039 ^m 20 | + 753 ^s 54 | + 1043 ^s 94 | 2.2 |
| 351 | B, sf of 2, | 861.17 | - 1120.72 | 750.91 | - 1115.44 | 2.2 |
| 352 | vF, | 865.40 | - 650.17 | 756.36 | - 645.02 | 2.2 |
| 353 | B, asp of 2, | 869.18 | + 477.68 | 763.05 | + 482.53 | 2.2 |
| 354 | vF, | 872.32 | - 177.34 | 764.50 | - 172.33 | 1.2 |
| 355 | B* [30.243], | 882.07 | + 539.79 | 776.11 | + 544.60 | 2.2 |
| 356 | F, ill def., | 891.61 | + 289.44 | 785.00 | + 294.28 | 1.3 |
| 357 | pF, | 896.01 | + 1174.30 | 791.69 | + 1178.91 | 2.2 |
| 358 | F, | 906.46 | + 823.18 | 801.22 | + 827.85 | 2.2 |
| 359 | eF, | 913.60 | - 840.27 | 804.05 | - 835.20 | 2.1 |
| 360 | pB, np of 2, | 918.36 | - 43.56 | 810.88 | - 38.70 | 2.2 |
| 361 | eF, | 935.50 | + 887.73 | 830.42 | + 892.31 | 1.1 |
| 362 | F, np B*, | 937.02 | + 1110.61 | 832.62 | + 1115.13 | 2.2 |
| 363 | eF, | 942.55 | + 44.51 | 835.29 | + 49.28 | 1.1 |
| 364 | pF, sf of 2, | 965.04 | - 77.92 | 857.45 | - 73.17 | 2.2 |
| 365 | pF, | 969.07 | + 864.39 | 863.93 | + 868.89 | 2.2 |
| 366 | vF, | 987.32 | + 508.86 | 881.25 | + 513.40 | 1.2 |
| 367 | B, | 997.18 | + 1067.68 | 892.56 | + 1072.05 | 2.2 |
| 368 | pB, | 1011.48 | - 311.90 | 903.28 | - 307.22 | 2.2 |
| 369 | eF, sp of 2, | 1011.67 | - 1025.19 | 901.61 | - 1020.32 | 1.1 |
| 370 | eF, n of B*, | 1012.10 | - 295.40 | 903.94 | - 290.72 | 1.2 |
| 371 | B, | 1013.79 | - 724.34 | 904.52 | - 719.56 | 1.2 |
| 372 | vB* [29.265], | 1021.55 | + 175.70 | 914.61 | + 180.24 | 2.2 |
| 373 | pB, | 1036.84 | - 995.33 | 926.86 | - 990.54 | 2.2 |
| 374 | pF, | 1037.40 | + 363.15 | 930.94 | + 367.60 | 2.2 |
| 375 | vF, | 1039.75 | + 830.04 | 934.50 | + 834.36 | 2.1 |
| 376 | pB, | 1041.02 | - 1256.91 | 930.36 | - 1252.06 | 2.2 |
| 377 | eF, | 1069.71 | + 774.22 | 964.31 | + 778.48 | 1.1 |
| 378 | pB, | 1103.50 | + 882.52 | 998.37 | + 886.67 | 2.2 |
| 379 | pB, | 1118.62 | + 1415.70 | 1014.87 | + 1419.67 | 2.2 |
| 380 | B or pB, | 1125.11 | - 149.42 | 1017.30 | - 145.07 | 2.2 |
| 381 | pB, | 1127.44 | + 1238.06 | 1023.23 | + 1242.05 | 2.2 |
| 382 | vF, | 1131.74 | + 1185.45 | 1027.39 | + 1189.44 | 1.3 |
| 383 | vB* [30.245], | 1132.41 | + 549.75 | 1026.41 | + 553.91 | 2.2 |
| 384 | pF, | 1141.24 | - 796.01 | 1031.75 | - 791.54 | 2.2 |
| 385 | pF, | + 1147.41 | - 377.54 | + 1039.00 | - 373.19 | 2.2 |

| No. | Description. | x | y | z | η | Meas. |
|-----|-----------------|------------------------|-----------------------|------------------------|-----------------------|-------|
| 422 | pF, | + 1463 ^h 72 | - 477 ^m 84 | + 1354 ^s 97 | - 474 ^s 29 | 2.2 |
| 423 | F, ill def., .. | 1463.83 | + 1329.82 | 1359.77 | + 1332.92 | 2.2 |
| 424 | vB [30.247], .. | 1465.21 | + 456.59 | 1358.89 | + 459.90 | 2.2 |
| 425 | B, | 1476.35 | - 1070.16 | 1366.06 | - 1066.49 | 2.2 |
| 426 | eF, | 1485.07 | + 71.72 | 1377.74 | + 75.07 | 1.1 |
| 427 | F, np of 2, .. | 1485.61 | - 61.85 | 1377.94 | - 58.45 | 2.2 |
| 428 | pB, | 1498.96 | + 777.27 | 1393.46 | + 780.42 | 3.2 |
| 429 | pF, sf of 2, .. | 1506.09 | - 88.25 | 1398.34 | - 84.90 | 2.2 |
| 430 | pF, sf B*, .. | 1514.19 | + 440.14 | 1407.81 | + 343.33 | 2.2 |
| 431 | pB, | + 1516.94 | - 737.81 | + 1407.52 | - 734.33 | 2.2 |

It is hoped that the results embodied in this paper faithfully represent the condition of this wonderful agglomeration of nebulosity and stars for the epoch 1900. Changes will doubtless in future be found to take place therein. The stars have proper motions, and there is no reason why nebulæ should not also have such. But it generally takes many years to make sure of a proper motion, and observers, who after a few years believed they had found minute changes going on in a nebula, have hitherto on every occasion proved to have been too hasty. Judging from past experience, it is therefore very unlikely that this generation will witness the discovery of changes in nebulæ established by photography. All the same, it seemed desirable to ascertain how the coordinates given above agreed with the best micrometer measures made at a sufficiently distant epoch, those of Schultz, including the results contained in the supplement to his "Observations of 500 Nebulæ," published in 1893 (Bihang till K. Svenska Vetensk. Akad. Handlingar, Band 19, Afd. I.). The objects measured by him are all referred to the star + 29° 265, my reference star (4). Giving all the observations equal weight, and using the place of the comparison star adopted above, I found Schultz's positions for 1899.0 to be—

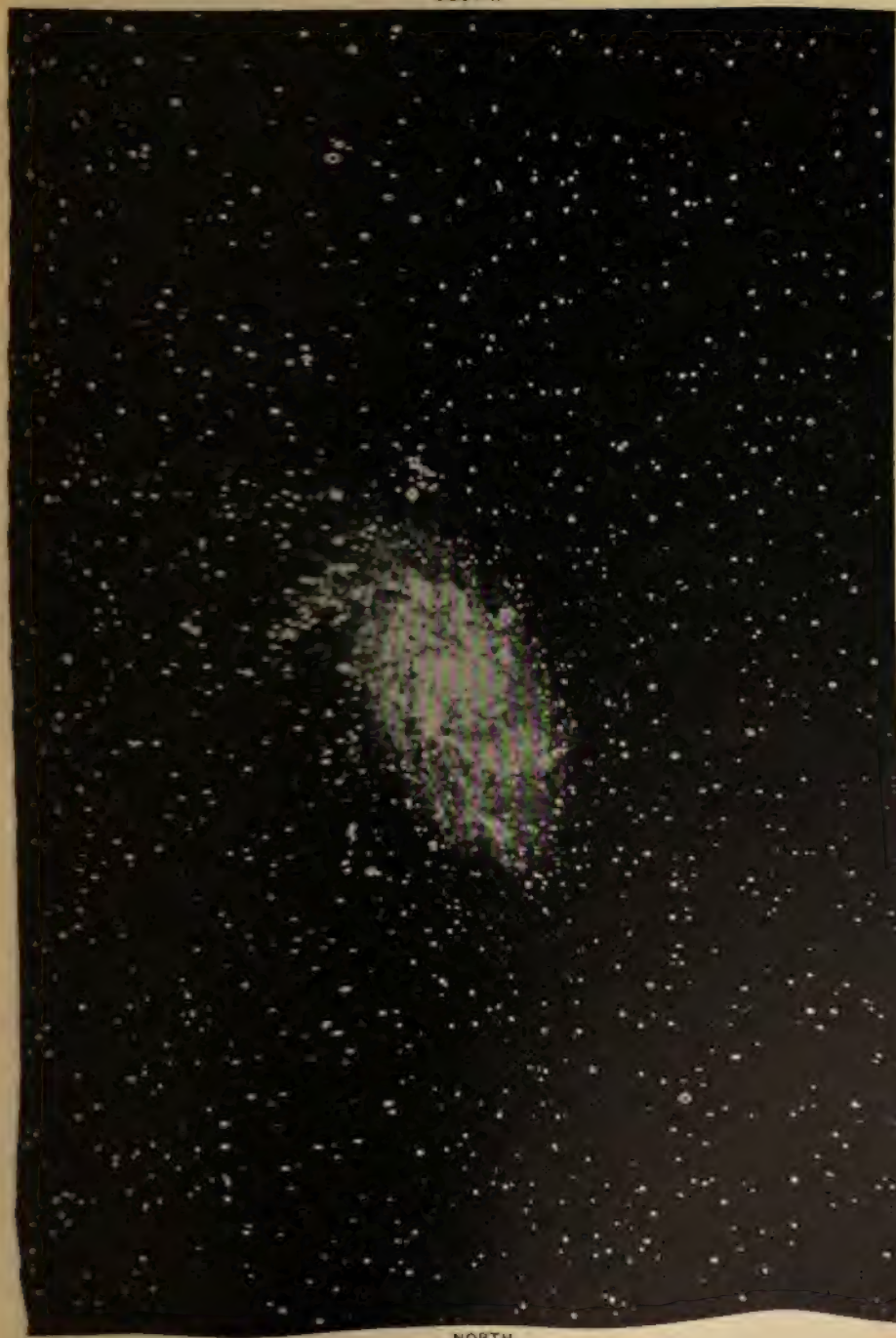
| | R.A. | Epoch. | Obs. | Decl. | Epoch. | Obs. |
|------------|---|--------|------|-------------------------------|--------|------|
| N.G.C. 588 | 1 ^h 27 ^m 4 ^s .92 | 1872.8 | 3 | + 30° 7' 42 ^{''} .89 | 1872.8 | 3 |
| " 592 | 1 27 31.51 | 1874.9 | 2 | 30 7 33.98 | 1872.8 | 3 |
| " 595 | 1 27 52.75 | 1875.2 | 3 | 30 10 24.67 | 1873.4 | 3 |
| * 11 mag. | 1 28 12.60 | 1874.9 | 2 | 30 9 8.86 | 1874.9 | 2 |
| N.G.C. 604 | 1 28 51.38 | 1871.4 | 2 | 30 15 57.36 | 1871.4 | 2 |

Computing the R.A. and Decl. from my ξ and η , the following differences were found (Schultz minus Phot.):—

| | | |
|--------|--------------------------------|--------------------------|
| No. 35 | $\Delta\alpha = - 0^{\circ}03$ | $\Delta\delta = - 3''30$ |
| 82 | $- 0^{\circ}34$ | $+ 0^{\circ}70$ |
| 122 | $- 0^{\circ}04$ | $- 0^{\circ}47$ |
| 196 | $+ 0^{\circ}12$ | $- 1^{\circ}49$ |
| 287 | $+ 0^{\circ}15$ | $- 1^{\circ}75$ |

The agreement is very satisfactory, considering the difficulty of measuring these objects, except in the case of N. G. C. 592, where the difference in R.A. amounts to $0^{\circ}34$. But Schultz has evidently not seen this object well; his single results in R.A. differ $0^{\circ}20$ *inter se*, while the $\Delta\delta$ are $105''9$, $107''4$, and $101''2$; and he remarks: "Contains several stars, place that of the brightest star in the south part of the nebula." He seems, with his 9-inch object-glass, not to have been able to distinguish clearly between the components of this double nebula (my numbers 80 and 82), as his R.A. is half-way between the R.A.s of the components ($31^{\circ}10$ and $31^{\circ}85$), while his declination is that of the south following one. No changes have, therefore, taken place in the positions of these five members of the group during the last thirty years.

SOUTH.

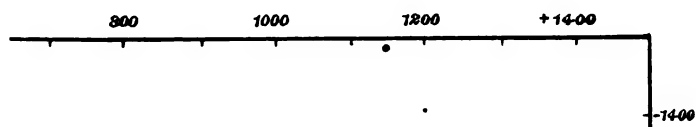


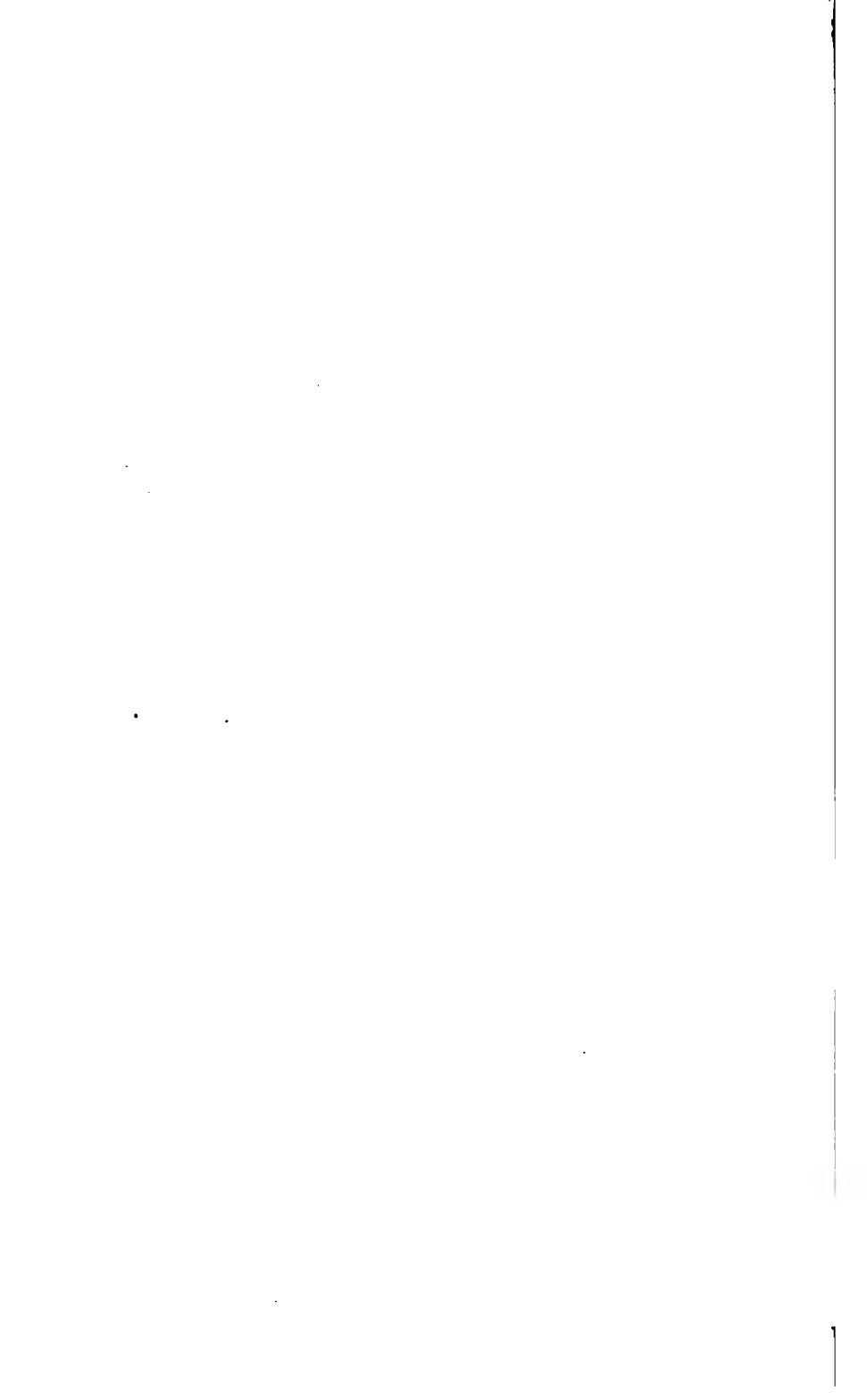
NORTH.

THE SPIRAL NEBULA MESSIER 33.

(Photograph by Dr. Isaac Roberts.)

Plate II.





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The Academy

III.

VERB-FUNCTIONS, WITH NOTES ON THE SOLUTION OF EQUATIONS BY OPERATIVE DIVISION.

By RONALD ROSS, D.Sc., F.R.S., C.B.

Read FEBRUARY 13. Ordered for Publication FEBRUARY 15.

Published APRIL 6, 1905.

I. INTRODUCTION.

1. In all branches of mathematics the need is felt for an algorithm capable of rendering algebraic operations apart from their subject and at the same time in a manner which will express their exact construction. For example, if $y = a + bx$, we understand that an operation has been performed on x which has converted it into y ; and we can state this idea *implicitly* by writing $y = \phi(x)$. But when we endeavour to represent ϕ —that is, the operation itself apart from its subject—*explicitly* in terms of the coefficients a and b , we find ourselves at a loss how to do so. We cannot equate ϕ to anything. We cannot write $\phi = a + b$, or $\phi = a + bx$: this would be to equate an operation to a quantity—a verb to a noun. In fact, we can only infer the nature of ϕ by observing the effect which it produces on the subject. The result is a limitation of our powers of expression; we can easily represent explicitly the relations of quantities, but not so easily those of operations. For example, if $\phi = a + b\psi + c\chi^2$, or if $\phi = \psi\chi$, we know that these relations hold between the operations ϕ , ψ , and χ ; but when we wish to exhibit the structure of the operations simultaneously with their relations to each other, we can do so only by the assistance of other equations defining each of the elements separately—we cannot put the whole information into a single equation. Nor can we easily represent repeated or inverse algebraic operations without circumlocution.

2. It may therefore serve a useful purpose to discuss a means—probably the only means—of meeting this want. Any complex of elements may be conceived as being the result of an operation performed on that one of the elements which, for the moment, we call

the subject of the operation. What we have to do is to find an expression for the operation apart from its subject. For this purpose we must obviously retain the whole form of the original complex (without which its structure cannot be rendered), and at the same time eliminate the subject. Now, if we simply erase the subject, we shall lose count of its relations with the other members of the group. We must therefore employ a symbol to denote its position within the complex. Let us call this position the *base* of the complex (upon which it has, so to speak, been constructed), and denote it always by the symbol β . Then, putting β in the place of the subject-symbol, we have a new expression which exactly represents the operation apart from its subject. The representation is exact, because all the facts contained in the original expression—the values of the subsidiary elements, and their relations with each other and with the subject—are retained. At the same time, because it contains an element β which has no quantitative value, the new expression has none, and cannot therefore be equated to any quantity. It is, as it were, a shadow-function, possessing the form without the material of the original. It expresses a definite algebraic *action*, and may be called shortly an *explicit operation*, or, perhaps, a *verb-function*.

For example, the action performed in the construction of the quantitative or scalar function $a + bx$ is $a + b\beta$ —those performed in the construction of $\frac{e^x}{x(x-1)}$ and $x \cos^{-1}x$ are $\frac{e^\beta}{\beta(\beta-1)}$ and $\beta \cos^{-1}\beta$, respectively. If convenient, we may denote any of these by a single operative symbol: thus we may write $\phi = a + b\beta$, $\psi = \beta \cos^{-1}\beta$. If the operation is to be performed on two or more subjects, we may distinguish the several bases by accents or subscripts, as in

$$\beta_1^2 + 2a\beta_1\beta_2 + \beta_2^2.$$

3. It is obvious from the definition that verb-functions are capable of any algebraic or other relations of which scalar functions are capable. Thus $\beta \cos^{-1}\beta$ is the algebraic product of the operations β and $\cos^{-1}\beta$, and

$$e^\beta = 1 + \beta + \frac{\beta^2}{2} + \&c.$$

Moreover, explicit operations may combine algebraically with implicit operative symbols. For example, when $a + b\beta + \phi$ operates on x , the result is

$$a + bx + \phi(x).$$

But operations must have operative as well as algebraic powers of combination. For instance, when $a + b\beta$ is multiplied into x , the result is

$$(a + b\beta)x = ax + bx\beta;$$

but when it operates on the *subject* x , the result is $a + bx$. We must therefore be careful always to distinguish between operative and algebraic relations. Thus, as we are now able to render explicitly any operation ϕ , it will no longer suffice to write ϕ^n without defining whether we mean algebraic or operative involution. We must, in short, employ a special bracket for operative relations; and the square bracket is the most convenient. Hence $[a + b\beta]x$ denotes that $a + b\beta$ operates on x , and $[\phi]^n$ denotes that ϕ operates on itself $n - 1$ times. On the other hand, $(a + b\beta)x$ and $(\phi)^n$ denote algebraic relations.

The following will serve as first examples:—

$$[a - b\beta][\beta^{-2}]\left[c + \frac{d}{\beta}\right][a^\beta]0 = a - b(c + d)^{-2},$$

$$[a + b\beta]^{-1} = \frac{1}{\beta}(\beta - a), \quad [a\beta^n]^{-1} = \sqrt[n]{\frac{\beta}{a}}, \quad [\log(a + \beta)]^{-1} = a^\beta - a,$$

$$[a + b\beta]^n = a + ab + ab^2 \dots ab^{n-1} + b^n\beta,$$

$$[a + b\beta^{-1}]^n = a + \frac{b}{a} + \frac{b}{a + \frac{b}{a}} + \dots + \frac{b}{a + b\beta^{-1}},$$

$$[a^\beta]^\beta(1) = a^{a^\beta} \quad [\log_\beta a]^\beta = \log_{\log_{\log_\beta} a} a^{a^\beta}$$

It will, of course, be understood that the subject of an operation should always be placed after it. The subject of an operation need not be in square brackets, unless it operates on another subject; and the square brackets may often be omitted for recognized operative symbols such as ϕ , ψ , Δ , D , Σ , when it is clearly understood that only operative relations are being discussed at the moment. A single stop between two symbols may be taken always to imply multiplication, as in $\phi \cdot \psi$, and a double stop, as in $\phi : \psi$, to mean the same thing as the square brackets.

4. We have defined β as the symbol which denotes the base of an operation, that is, the position which the subject will occupy when the operation is performed. But it may be otherwise interpreted. According to our conventions the function x^n becomes $[\beta^n]x$ when put in the form of operation and subject. Hence β^n is an operation which raises its

subject to the n^{th} algebraic power. It follows therefore that $[\beta]x = x$, that is, β itself is an operation which produces the subject without, so to speak, doing any work upon it. Now, if ϕ is another operation consisting of a complex of quantities combined with various powers of β , it must, according to definition, not only reproduce its subject, but also perform work upon it. Thus the respective effects of β and ϕ when they operate on the same subject are comparable to the respective effects of unity and any other quantity a , when these are multiplied into a given element. Hence we may call β *the univalent operation*.

Again, we have seen that β^n , that is, the n^{th} algebraic power of β , has a definite potency different from that of β . Let us now examine the n^{th} operative power of β . Since β operating on a subject merely reproduces it without changing it, then obviously

$$[\beta]x = x, \quad [\beta]^2x = [\beta][\beta]x = [\beta]x = x, \quad [\beta]^n = \beta;$$

that is, operative involution produces no change in β . Now, if ϕ is an operation which produces a change in its subject, then $[\phi]^{n+1}$ must be different from $[\phi]^n$. Here again then, β and ϕ , as regards operative involution, are respectively comparable to unity and any other quantity a , as regards algebraic involution.

Thirdly, if we accept the law that

$$[\phi]^n [\phi]^m = [\phi]^{n+m},$$

then it follows that

$$[\phi]^{-1} [\phi] = [\phi]^0.$$

Now, the property of $[\phi]^{-1}$, as always accepted, is that it is an operation which, so to speak, undoes the work performed by ϕ . Hence $[\phi]^0$ must be an operation which performs no work on its subject, so that it has the same potency as β . Hence we may write, without immediate discussion,

$$[\phi]^{-1} [\phi] = [\phi]^0 = \beta.$$

This recalls the algebraic law that

$$x^{-1}x = x^0 = 1.$$

Comparing these several results, we shall see that β has similar properties as regards operative relations to those possessed by unity as regards algebraic relations. Hence we may, perhaps, describe β as *the unit of operation*.

5. We must now examine the operative potency of a simple quantity. Consider the linear operation

$$a + b\beta + c\beta^2 \dots$$

When this operates on x , the result is, by definition,

$$a + bx + cx^2 \dots$$

We may write this as follows:—

$$\begin{aligned} [a + b\beta + c\beta^2 \dots]x &= [a]x + [b\beta]x + [c\beta^2]x + \dots \\ &= a + bx + cx^2 \dots \end{aligned}$$

Thus, while $[\beta^2]$ has squared the subject, and $[\beta]$ has simply reproduced it, $[a]$ has reduced it to unity. To explain this, we observe that, as β^n is merely the algebraic power of β , it follows that, according to algebraic rule, $\beta^0 = 1$. Hence the original operation may be written

$$a\beta^0 + b\beta + c\beta^2 \dots,$$

so that

$$[a]x = [a\beta^0]x = a\beta^0 = a.$$

If

$$[\beta^n]x = x^n, \text{ then obviously } [\beta^0]x = x^0 = 1.$$

Hence a “free” quantity when in operation merely reproduces itself. Quite rightly it appears in the result, because it is not zero; but equally rightly it has no effect on the subject, just because it is a quantity and not an operation. For, consider if it is to have an effect on the subject, what effect is it to have? If $[a]x$ does not equal a , does it equal $a + x$, or ax , or a^x , or $\log_a x$? It cannot equal any of these, because they are respectively the results of

$$[a + \beta]x, [a\beta]x, [a^x]x, \text{ and } [\log_a \beta]x;$$

and there is, *a priori*, no reason why it should equal any one of them to the exclusion of the others.

6. Lastly, we have to show that $[\phi]^0$, or, as it is commonly written, ϕ^0 , cannot be equal to unity. For

$$[\phi]^0 x = [\phi]^{-1} [\phi]x = x;$$

but, if

$$[\phi]^0 = 1, \text{ then } [1]x = x.$$

But we have just seen that $[1]x = 1$; and the two results are not compatible.

those indicated. Moreover, we are scarcely justified in giving arbitrarily different powers to two elements of the same expression :

$$a + b \frac{\partial}{\partial x}$$

must be either a factor or an operation—it cannot be both. The equation can be rendered accurately by writing

$$[aD^0 + bD]u = au + [bD]u, \quad \text{where } D^0 = \beta.$$

(See § 23.)

9. To sum up, there are two proposals contained in the preceding pages: one a proposal to recognise the unit of operation by a special symbol, and the other to adopt a special operative bracket. Consideration will show that it is scarcely possible to represent operations explicitly and accurately without these two conventions. We may employ another symbol in the place of β , and other brackets than the square brackets; but the fundamental conventions appear to be inevitable. Nor should the suggested notation be mistaken for a symbolic one. A symbolic notation may, perhaps, be described as one which is used for convenience, although it is not strictly in accordance with algebraic usages. But these proposals do not interfere with algebraic usages; they merely suggest additions which are as rigid in their own way as those of algebra.

At one point a symbolic notation has been used above, namely, in the expression $[\phi]^n$. Strictly speaking, the index has already been allocated for the use of algebraic involution; but as an algebraic power of ϕ can be rendered by $(\phi)^n$, there is little chance of ambiguity if $[\phi]^n$ be taken to represent operative involution. It is, however, advisable, and even at times necessary, to use a symbol of operation in order to express operative involution correctly. We may suggest that

$$[\gamma_n]\phi = [\phi]^n$$

so that

$$[\gamma_n][\gamma_m]\phi = [\phi]^{nm}$$

and

$$[a + b\gamma + c\gamma_2 + d\gamma_3 \dots]\phi = a + b\phi + c[\phi]^2 + d[\phi]^3 \dots$$

10. In order to illustrate the practical advantages of these proposals, two courses are open. One to draw isolated examples from many diverse branches of mathematics; the other to deal more thoroughly with a single field. The latter course is adopted; and the field selected is that of the common algebra of the subject—

operative multiplication and division. This is advisable for the reason that such a study should obviously preface more advanced work, which indeed cannot easily be dealt with without it. The subject will be treated in a very simple manner, because it is, in fact, such an elementary one that much of it might find place immediately after ordinary algebraic multiplication and division, while the rest would scarcely be out of order after the multinomial theorem. It is hoped moreover that some of the results may be interesting in themselves.¹

II. OPERATIVE MULTIPLICATION AND DIVISION.

11. *Operative Multiplication.*—The terms ‘operative multiplication,’ ‘division,’ ‘involution,’ and ‘evolution,’ may conveniently be employed to denote the operative processes analogous to the corresponding algebraic ones. Thus $[\phi]x$ and $[\phi][\psi]$ denote operative multiplication, and $[\phi]^n$ denotes operative involution; and the inverse processes may be named operative division and evolution. If $[\phi][\psi] = \chi$, ϕ and ψ may be called operative factors, and χ may be called the operative product or result; but as $\phi\psi$ does not necessarily equal $\psi\phi$ (to drop the square brackets where the meaning is obvious), we must, in the case of $\phi\psi$, call ϕ the superior factor, and ψ the inferior one.

The term ‘operative multiplication’ is especially suitable when ϕ and ψ are linear functions of β , so that their operative product has to be developed by a process akin to that of the algebraic process. Thus, if

$$\phi = a_0 + a_1\beta + a_2\beta^2 \dots \quad \text{and} \quad \psi = b_0 + b_1\beta + b_2\beta^2 \dots,$$

and we have to develop their result, we must supplant every β in ϕ

¹ So far as I can ascertain these proposals are new; but of this I cannot be sure. Professor Joly calls my attention to the fact that $[\phi]^0$ is given the name of “the identical substitution” in the theory of Groups; but it is equated to unity; it is not employed for the explicit rendering of operations, and does not seem to be recognised as the equivalent of the unit of operation. I believe that a special operative bracket has been previously suggested. The present notation was first used by me, without publication, in 1886. Some of the matter given here was brought to the notice of the Liverpool Mathematical Society in May, 1903—especially a paper (not included here) on the application of the method to the theory of series. In this it was shown that the difference calculus is only a part of a larger calculus which possesses general theorems, of which Taylor’s and Leibnitz’s theorems are isolated examples. Expressions for these theorems were given.

by the whole of ψ ; and we may then rearrange the terms in ascending powers of β . For example,

$$\begin{aligned} [a_0 + a_1\beta + a_2\beta^2][b_0 + b_1\beta] &= a_0 + a_1(b_0 + b_1\beta) + a_2(b_0 + b_1\beta)^2 \\ &= (a_0 + a_1b_0 + a_2b_0^2) + (a_1b_1 + 2a_2b_0b_1)\beta + a_2b_1^2\beta^2. \end{aligned}$$

Both sides of the equation may now be applied to any subject, quantitative or operative.

To obtain the general result, the particular results produced by each term of the superior factor should be written out below each other in columns of the same power of β , and the sum placed at the bottom. If any of the exponents of β in the superior factor are negative, the result will contain fractions which can be dealt with in the usual algebraic manner. If any of these exponents are fractional, we can reduce them all to a common denominator, as in the following example:—

$$[p\beta^{\frac{a}{n}} + q\beta^{\frac{b}{n}} + r\beta^{\frac{c}{n}}]\psi = [p\beta^{am} + q\beta^{bm} + r\beta^{cm}][\beta^{\frac{1}{dm}}]\psi$$

$$\text{and} \quad [\beta^{\frac{1}{dm}}]\psi = (\psi)^{\frac{1}{dm}}.$$

If β^a and β^b be the highest powers of β in the two factors, then β^m will be the highest power of β in the result, which will, in the general form, contain $nm + 1$ terms. It may be observed that, as we shall, in general, have $nm + 1$ equations to determine the coefficients of these terms, and as the original factors can contain only $n + m + 2$ independent coefficients, the coefficients of the result will not generally be independent.

Where the two factors are the same the result is an operative square. It may be noted that $[+\beta^a]^2 = +\beta^{2a}$; that $[-\beta^a]^2 = -\beta^{2a}$ if a be an even integer, and that

$$\left[\frac{1}{\beta^a}\right]^2 = \beta^{2a}.$$

Obviously the rule of operative multiplication differs from that of algebraic multiplication only in the fact that every term of the superior factor *operates* on the whole of the inferior factor, instead of being *multiplied* into it.

12. *Operative Fractions*.—In extension of the phraseology employed above, $[\phi][\psi]^{-1}$ may be called an operative fraction, and may also be written $\frac{\phi}{\psi}$ —a double line being used to distinguish it from an

algebraic fraction. It must be noted that $[\psi]^{-1}[\phi]$ is not the same as $\frac{\phi}{\psi}$ as just defined. The former may be called a superior operative ratio, the latter an inferior one; and they may also be rendered by

$$\psi \parallel \phi \text{ and } \phi // \psi.$$

The elementary properties of these fractions are almost self-evident; for example—

$$\frac{\phi}{\phi} = \beta, \quad \frac{\phi + \psi}{\chi} = \frac{\phi}{\chi} + \frac{\psi}{\chi}, \quad \frac{\phi\psi}{\chi\psi} = \frac{\phi}{\chi}, \quad \frac{\phi}{\psi} \frac{\psi}{\chi} = \frac{\phi}{\chi}, \quad \frac{\phi}{\psi\chi} = \frac{\phi}{\chi} \psi^{-1},$$

$$\frac{a}{\phi} = a, \quad \phi \frac{\psi}{\chi} = \frac{\phi\psi}{\chi}, \quad \text{but } \frac{\phi}{\chi} \psi \neq \frac{\phi\psi}{\chi},$$

$$\left[\frac{\beta^n}{\beta^m} \right]^r = \beta^{\left(\frac{n}{m} \right)^r}; \text{ since } [\beta^n][\beta^m] = \beta^{nm} \text{ and } [\beta^n]^m = \beta^{nm}.$$

13. *Operative Division*.—If the denominator be an operation which consists of two or more terms, we can often find the quotient by processes similar to those used in algebraic division. Suppose, for instance, that

$$[\phi][\beta^2 + 2\beta + 5] = \beta^4 + 4\beta^3 + 17\beta^2 + 26\beta + 44,$$

and that the value of ϕ is required. We may proceed either by synthetic or formal division. If the former be selected, assume that

$$\phi = \beta^2 + a\beta + b,$$

and operate with this on

$$\beta^2 + 2\beta + 5,$$

and then equate the coefficients of the various powers of β in the new equation. We find that

$$a + 14 = 17, \quad 2a + 20 = 26, \quad 5a + b + 25 = 44,$$

so that

$$a = 3 \text{ and } b = 4.$$

Or we may proceed as follows by means of a formal rule of operative division closely similar to that of algebraic division:

$$\begin{array}{r} \beta^2 + 2\beta + 5 \quad \beta^4 + 4\beta^3 + 17\beta^2 + 26\beta + 44 \quad (\beta^2 + 3\beta + 4 \\ \underline{\beta^4 + 4\beta^3 + 14\beta^2 + 20\beta + 25} \end{array}$$

$$3\beta^2 + 6\beta + 19$$

$$\underline{3\beta^2 + 6\beta + 15}$$

$$4$$

$$4$$

$$—$$

The rule differs from that of algebraic division only in the fact that each term of the quotient *operates* on the whole divisor instead of being *multiplied* into it. To find the first term of the quotient, we ask what power of β operating on the first term of the divisor β^2 will produce the first term of the dividend β^4 . The answer is evidently β^2 . Operating with this on the whole divisor (that is, squaring it) we obtain the first subtrahend. Subtracting this we have the second dividend. Again, operating with 3β on the whole divisor we obtain the second subtrahend, which gives the second remainder 4. Now since a quantity operating on a subject produces only itself (§ 5), the number 4 in the quotient operating on the divisor will produce nothing but itself, namely, the number 4 required to complete the division. And the result may be verified by reversing the process and operating with the quotient on the divisor, when the dividend will be obtained.

Or, we may arrest the division after the first term of the quotient has been obtained, and then write the latter with a remainder, so that it becomes

$$\beta^2 + \frac{3\beta^2 + 6\beta + 19}{\beta^2 + 2\beta + 5}.$$

The above is an example of division in *descending* terms of β ; but, by reversing both divisor and dividend, we may obtain the quotient by *ascending* division, thus:—

$$\begin{array}{r} 5 + 2\beta + \beta^2 \overline{) 44 + 26\beta + 17\beta^2 + 4\beta^3 + \beta^4} \quad \left(44 + 26 \left(\frac{\beta - 5}{2} \right) + 4 \left(\frac{\beta - 5}{2} \right)^2 \right. \\ \underline{44} \\ 26\beta + 17\beta^2 + 4\beta^3 + \beta^4 \\ \underline{26\beta + 13\beta^2} \\ 4\beta^2 + 4\beta^3 + \beta^4 \\ \underline{4\beta^2 + 4\beta^3 + \beta^4} \\ 0 \end{array}$$

Here the first term of the quotient is 44, which merely reproduces itself for the first subtrahend. For the second term of the quotient we have $26 \frac{\beta - 5}{2}$, since $\frac{\beta - 5}{2}$ operating on the divisor reduces it to $\beta + \frac{1}{2}\beta^2$, a form convenient for the process; and for the same reason the same operation appears in every term of the quotient, which may therefore be written in the form

$$\left[44 + 26\beta + 4\beta^2 \right] \frac{\beta - 5}{2}.$$

The reason for this is, that the divisor itself is the operative product of $5 + 2\beta$, and $\beta + \frac{1}{2}\beta^2$, and

$$\frac{\phi}{\psi\chi} = \frac{\phi}{\chi} \psi^{-1}.$$

It will be seen that the quotient obtained by ascending division easily reduces in this case to that obtained by descending division; but it would have been simpler, before undertaking the ascending division, to have put the divisor into factors, and then to have divided β by

$$\beta + \frac{1}{2}\beta^2.$$

This example would serve to solve the functional equation

$$f(x^2 + 2x + 5) = x^4 + 4x^3 + 17x^2 + 26x + 44;$$

but the solution can be otherwise obtained, though not so quickly; and the example is given only as an easy illustration of the general processes of descending and ascending operative division.

14. *Separation into Factors.*—In the above instance the divisor was known; but a more important case occurs when both divisor and quotient have to be determined—when, in fact, we are required to put a linear operation into operative factors. For, if $[\phi]x = y$ is an equation which we have to solve; if we can find two factors, ψ and χ , such that $\phi = \psi\chi$, and can readily find the values of ψ^{-1} and χ^{-1} ; then, since $\phi^{-1} = \chi^{-1}\psi^{-1}$, we can solve the original equation. Probably, the readiest way to achieve this is to assume the form of the divisor, and then ascertain by division whether it will produce a suitable quotient.

For example, solve the equation

$$147x^4 + 42x^3 + 10x^2 + x = 30.$$

Then we have to put

$$\beta + 10\beta^2 + 42\beta^3 + 147\beta^4$$

into factors.

Try division by $\beta + a\beta^2$.

$$\begin{array}{r} \beta + a\beta^2 \quad \beta + 10\beta^2 + 42\beta^3 + 147\beta^4 \quad (\beta + (10 - a)\beta^2) \\ \underline{\beta + a\beta^2} \\ (10 - a)\beta^2 + 42\beta^3 + 147\beta^4 \\ \underline{(10 - a)\beta^2 + 2a(10 - a)\beta^3 + a^2(10 - a)\beta^4} \end{array}$$

Hence, if the remainder is to vanish,

$$2a(10 - a) = 42,$$

and simultaneously

$$a^2(10 - a) = 147;$$

that is, $a = 7$. Hence

$$x = [\beta + 10\beta^2 + 42\beta^3 + 147\beta^4]^{-1}30 = [\beta + 7\beta^2]^{-1}[\beta + 3\beta^2]^{-1}30.$$

Since

$$[\beta + 3\beta^2]^{-1} = \frac{\beta}{\beta + 3\beta^2},$$

its value can be found by division, either by the general method of § 13, or by the artifice usually employed for quadratic equations, namely,

$$\begin{array}{r} a\beta^2 + \beta \quad \beta \quad \left(\pm \sqrt{\frac{1}{a}\beta + \frac{1}{4a^2}} - \frac{1}{2a} \right) \\ \beta + \frac{1}{2a} \\ \hline - \frac{1}{2a} \\ \hline - \frac{1}{2a} \\ \hline \end{array}$$

so that

$$x = [\frac{1}{14}(\pm \sqrt{28\beta + 1} - 1)] \frac{1}{2}(\pm \sqrt{361} - 1).$$

For another example, solve

$$x^5 + 12x^4 + 60x^3 - 720x^2 - 1728x - 11 = 0.$$

Try division by $\beta + a$, so as to produce a quotient of the form

$$\beta^3 + b\beta^2 + c.$$

After the first remainder is found, it will be seen that a must = 2 if the coefficients of β^5 and β^4 in the quotient are to vanish. This gives the exact quotient

$$\beta^3 - 160\beta^2 + 1205, \text{ which } = [\beta^2 - 160\beta + 1205]\beta^2;$$

so that

$$x = [\beta - 2][\beta^{\frac{1}{2}}][\beta^2 - 160\beta + 1205]^{-1}0 = (\pm \sqrt{5195} - 80)^{\frac{1}{2}} - 2.$$

Of course, only particular expressions can be put into operative factors in this way; because, as noted in § 11, the coefficients of an operative product are not as a rule independent. But if the coefficients are numerical, their interdependence cannot always be detected at sight, and operative division then affords a quick and easily remembered method for testing the point, and at the same time attaining the object, if such be possible.

It is sometimes possible to put an operation in the form of an operative ratio. Then, if

$$\phi = \frac{\psi}{\chi}, \quad \text{we have} \quad \phi^{-1} = \frac{\chi}{\psi}.$$

For this purpose, we have to find both the divisor and the dividend—the quotient being known. Take, for instance, the cubic

$$x^3 + ax = b,$$

and assume the forms

$$\beta + p\beta^{-1}, \quad \text{and} \quad \beta^3 + q\beta^{-3}$$

for the divisor and dividend which have the quotient $\beta^3 + a\beta$. Then we find that

$$3p = -a, \quad \text{and} \quad 9q = -a^3,$$

so that

$$\beta^3 + a\beta = \left[\beta^3 - \left(\frac{a}{3} \right) \beta^{-3} \right] \left[\beta - \frac{a}{3} \beta^{-1} \right]^{-1},$$

$$[\beta^3 + a\beta]^{-1} = \left[\beta - \frac{a}{3} \beta^{-1} \right] [\beta^3] \left[\beta - \left(\frac{a}{3} \right) \beta^{-1} \right]^{-1},$$

which is Cardan's solution in substance (§ 15-7). This section would be capable of much more development; but it is advisable in a preliminary survey to proceed quickly to the next.

15. *General Solution of Equations by Operative Division.*—Since

$$[\phi]^{-1}[\phi] = \beta, \quad [\phi]^{-1} = \frac{\beta}{\phi};$$

and if ϕ be a linear function of β , we can in general develop $\frac{\beta}{\phi}$ in a series by means of operative division, just as we can develop $\frac{1}{\phi}$ in a series by algebraic division. The quotient will be in ascending or descending powers of β , according to whether the divisor is arranged in ascending or descending powers; and the process is the same as

that of § 13, with the sole difference that the dividend has only a single term β . As the process can always be applied, the value of $[\phi]^{-1}$ can always be obtained, no matter what its degree, and always by the same method; but that value will in general be an infinite series.

If the first term of the divisor be β^n , the first term of the quotient must be $\beta^{\frac{1}{n}}$, since $[\beta^n]^{-1} = \beta^{-n}$. Hence, in order to obtain the first subtrahend, we must expand the $\frac{1}{n}$ th power of ϕ by the binomial or multinomial theorem; and similar expansions must, in general, be used for each successive subtrahend. But it will be seen later that the quotient can easily be written out by means of a general rule. As β has no quantitative value, the question of convergency of series does not generally arise in connexion with the operative expressions; and their accuracy can be established as an identity by reversing the process of division and applying the quotient to the divisor, or, what is the same thing in this case, the divisor to the quotient. The process can best be studied by the aid of a few examples.

(1) Find a root of the equation

$$x^5 + ax + b = 0.$$

Then

$$x + a^{-1}x^5 = -a^{-1}b, \text{ and } x = [\beta + a^{-1}\beta^5]^{-1}(-a^{-1}b).$$

$$\begin{array}{r} \beta + a^{-1}\beta^5 \quad \beta \quad (\beta - a^{-1}\beta^5 + 5a^{-2}\beta^9 - 35a^{-3}\beta^{13} + R \\ \underline{\beta + a^{-1}\beta^5} \\ - a^{-1}\beta^5 \\ - a^{-1}\beta^5 - 5a^{-2}\beta^9 - 10a^{-3}\beta^{13} - R \\ \hline 5a^{-2}\beta^9 + 10a^{-3}\beta^{13} + R \\ 5a^{-2}\beta^9 + 45a^{-3}\beta^{13} + R \\ \hline - 35a^{-3}\beta^{13} - R; \end{array}$$

$$\therefore x = -a^{-1}b + a^{-5}b^5 - 5a^{-11}b^9 + 35a^{-16}b^{13} - R.$$

This has only one value.

(2) Solve the equation $x^5 + ax + b = 0$.

$$\begin{aligned} & (\beta^5 - a\beta) \beta & (\beta^{\frac{1}{5}} - \frac{1}{5}a\beta^{-\frac{3}{5}} - \frac{1}{25}a^2\beta^{-\frac{7}{5}} - R \\ & \beta + \frac{1}{5}a\beta^{-3} - \frac{1}{25}a^2\beta^{-7} - R \\ & - \frac{1}{5}a\beta^{-3} + \frac{1}{25}a^2\beta^{-7} - R \\ & - \frac{1}{5}a\beta^{-3} + \frac{1}{25}a^2\beta^{-7} - R \\ & - \frac{1}{25}a^2\beta^{-7} - R; \end{aligned}$$

$$\therefore x = (-b)^{\frac{1}{5}} - \frac{1}{5}a(-b)^{-\frac{3}{5}} - \frac{1}{25}a^2(-b)^{-\frac{7}{5}} - R.$$

As $\sqrt[5]{-b}$ has five values, this series also has five values, which may be supposed to be the five roots of the equation. In order to prove this point, let the five values of $\sqrt[5]{-b}$ be $ma, ma^2, ma^3, ma^4, ma^5$, where a, a^2, \dots are the five values of $\sqrt[5]{-1}$, so that

$$a + a^2 + a^3 + a^4 + a^5 = 0.$$

Insert these values of $\sqrt[5]{-1}$ successively in the series for x . We shall thus have five series. It will be found that their sum, and the sum of their products two at a time and three at a time, vanish. The sum of their products four at a time = a ; and their product all together = $-b$ (see also § 21). Thus the five series are the five roots of the equation; and as these series are all contained in the original series, that series is the complete algebraic, or, rather, transcendental, solution of the equation

$$x^5 + ax + b = 0.$$

There is one condition attached—that the series be an infinite one.

(3) Divide the same equation by x^5 and by x , and solve. This process enables us to put the equation in four more forms, namely,

$$\begin{aligned} x^{-5} + \frac{a}{b}x^{-4} &= -\frac{1}{b}, & x^{-4} + \frac{b}{a}x^{-3} &= -\frac{1}{a}, \\ x^4 - bx^{-1} &= -a, & x^{-1} + \frac{1}{b}x^4 &= -\frac{a}{b}; \end{aligned}$$

and each form can be separately solved by dividing β by the four operations

$$\beta^{-5} - \frac{a}{b}\beta^{-4}, \quad \beta^{-4} + \frac{b}{a}\beta^{-3}, \quad \beta^4 - b\beta^{-1}, \quad \beta^{-1} + \frac{1}{b}\beta^4,$$

and applying the quotients respectively to

$$-\frac{1}{b}, \quad -\frac{1}{a}, \quad -a, \quad -\frac{a}{b},$$

Though some of the exponents of β are negative, the division is carried out in exactly the same way. Thus we obtain the following values of x from these four new forms:—

From the first,

$$x = \left(-\frac{1}{b}\right)^{-\frac{1}{5}} + \frac{1}{5} \frac{a}{b} \left(-\frac{1}{b}\right)^{-\frac{6}{5}} + \frac{1}{25} \left(\frac{a}{b}\right)^2 \left(-\frac{1}{b}\right)^{-\frac{11}{5}} + R,$$

which reduces to that given in (2), and has five values.

From the fourth,

$$x = \left(-\frac{a}{b}\right)^{-1} + \frac{1}{b} \left(-\frac{a}{b}\right)^{-6} + 5 \left(\frac{1}{b}\right)^2 \left(-\frac{a}{b}\right)^{-11} + R,$$

which reduces to that given in (1) and has one value.

From the second and third we get, after reduction,

$$x = (-a)^{\frac{1}{5}} - \frac{1}{4} \frac{b}{a} - \frac{5}{32} b^2 (-a)^{-\frac{9}{4}} - \frac{10}{64} b^3 (-a)^{-\frac{13}{4}} - R,$$

which gives four roots of the proposed equation.

Thus we can deal with this equation in three ways. Numerical trials must for the present be left to the reader—such cases as

$$x^5 \pm 10x \pm 1 = 0$$

being readily worked. In some instances the series will be real and convergent, in others with unreal subjects, or divergent (§ 22).

(4) Find solutions for

$$\frac{1}{\sqrt[5]{x}} + a^2 \sqrt{x} = b.$$

We shall obtain

$$\left[\beta^{-\frac{1}{5}} + a\beta^{\frac{1}{5}}\right]^{-1} = \beta^{-5} + 5a\beta^{-\frac{11}{5}} + \frac{15}{2} a^2 \beta^{-\frac{21}{5}} + R,$$

$$\left[\beta^{-\frac{1}{5}} + \frac{1}{a} \beta^{-\frac{1}{5}}\right]^{-1} = \beta^{-5} - 2a^{-1} \beta^{-\frac{6}{5}} - \frac{1}{5} a^{-2} \beta^{-\frac{11}{5}} + \frac{7}{25} a^2 \beta^{-\frac{16}{5}} + R.$$

The example is given to show that fractional indices in the divisor may be dealt with in the same manner as integral indices. But we also have

$$\beta^{-\frac{1}{5}} + a\beta^{\frac{1}{5}} = [\beta^{-5} + a\beta^5] \beta^{\frac{1}{10}}.$$

(5) Solve $x^n + ax^{n-r} + b = 0$.

In carrying out the division by $\beta^n + a\beta^{n-r}$, we shall first observe the general law that the coefficients in the quotient reduce to a simple binomial form. Let t be the number of a term in the quotient (the first term being numbered zero), and let s be the exponent of β in that term, then the general expression for the term will reduce to

$$\frac{1}{ns} \frac{(-s)^{(t)}}{t} a^t \beta^s.$$

Moreover, s is easily determined. For the first term $s = \frac{1}{n}$, and for each successive term it must be increased by $\frac{r}{n}$; so that

$$\begin{aligned} [\beta^n + a\beta^{n-r}]^{-1} &= \beta^{\frac{1}{n}} + \frac{1}{1+r} \left(-\frac{1+r}{n} \right) a \beta^{\frac{1+r}{n}} + \frac{1}{1+2r} \left(-\frac{1+2r}{n} \right)^2 \frac{a^2}{2} \beta^{\frac{1+2r}{n}} \\ &\quad + \frac{1}{1+3r} \left(-\frac{1+3r}{n} \right)^3 \frac{a^3}{3} \beta^{\frac{1+3r}{n}} + R. \end{aligned}$$

It will be seen in the following section that a similar reduction occurs in the general value of ϕ^{-1} . The values of n and r are not restricted.

(6) *The quadratic* $x^2 + ax + b = 0$. The complete solution is given by

$$\begin{aligned} [\beta^2 + a\beta]^{-1} &= \beta^{-\frac{1}{2}} - \frac{1}{2} a \beta^{-\frac{3}{2}} - \left(\frac{1}{2} \right)^2 \frac{a^2}{2} \beta^{-\frac{5}{2}} - \frac{1}{3} \left(\frac{3}{2} \right)^3 \frac{a^3}{4} \beta^{-\frac{7}{2}} \\ &\quad - \frac{1}{5} \left(\frac{5}{2} \right)^5 \frac{a^5}{6} \beta^{-\frac{9}{2}} - R, \end{aligned}$$

the coefficients of the integral powers of β , except β^0 , vanishing. The sum of the series is

$$\pm \sqrt{\beta + \left(\frac{a}{2} \right)^2} - \frac{a}{2}.$$

The same series is given if we solve from the form

$$x^{-2} + \frac{a}{b} x^{-1} = -\frac{1}{b}.$$

The forms

$$x + bx^{-1} = -a \quad \text{and} \quad x^{-1} + \frac{b}{a} x^{-2} = -\frac{1}{a}$$

each give one root by itself; and the forms

$$x + \frac{1}{a}x^3 = -\frac{b}{a} \quad \text{and} \quad x^{-1} + \frac{1}{b}x = -\frac{a}{b}$$

give the other by itself—the first root being obtained by descending division, and the second by ascending division.

(7) *The cubic* $x^3 + ax + b = 0$.—The complete solution is given by

$$\begin{aligned} [\beta^3 + a\beta]^{-1} = & \beta^{\frac{1}{3}} - \left(\frac{1}{3}\right)a\beta^{-\frac{2}{3}} - \frac{1}{5}\left(\frac{5}{3}\right)^{(3)}\frac{a^3}{[3]}\beta^{-\frac{5}{3}} - \frac{1}{7}\left(\frac{7}{3}\right)^{(4)}\frac{a^4}{[4]}\beta^{\frac{2}{3}} \\ & - \frac{1}{11}\left(\frac{11}{3}\right)^{(6)}\frac{a^6}{[6]}\beta^{-\frac{11}{3}} - R, \end{aligned}$$

the coefficients of the integral powers of β vanishing. This does not coincide with the expansion of the sum of two cubic roots obtained by Cardan's solution, because that has nine values, and is not the exact invert. When the two cube roots are properly taken however, their expansion agrees with the value of

$$\left[\beta^3 - \left(\frac{a}{3}\right)^3\beta^{-3}\right]^{-1},$$

obtained by operative division; and, by § 14,

$$\left[\beta^3 + a\beta\right]^{-1} = \left[\beta - \frac{a}{3}\beta^{-1}\right]\left[\beta^3 - \left(\frac{a}{3}\right)^3\beta^{-3}\right]^{-1}.$$

Dividing the original equation by x , x^3 , and x^3 , we obtain subsidiary equations which give single roots when the first term of the divisor is β or β^{-1} : one root by ascending division, and one by descending. Two roots are obtained when β^3 or β^{-3} is the first term of the divisor.

(8) Find solutions for

$$x + ax^2 + bx^3 \dots = y, \quad \text{and} \quad x + a + bx^{-1} + cx^{-3} \dots = y,$$

the number of terms being indefinite. The inverts of

$$\beta + a\beta^2 + b\beta^3 \dots, \quad \text{and of} \quad \beta + a\beta^0 + b\beta + c\beta^2 \dots$$

can be found without difficulty by the same process; and the exercise will be instructive. As the first term in both cases is β , the inverts will be free from radicles, and will consequently have only one value each. The first form may be used for any equation of which the

lowest power of x is x ; and any equation of which the highest power of x is x^n , and the next power is x^{n-1} , such as

$$x^n + ax^{n-1} + bx^{n-2} \dots = y$$

becomes

$$x + bx^{n-1} + \dots - yx^{n-1} = -a$$

on division by x^{n-1} ; that is, becomes the second form. But there is another way of reducing any equation, say,

$$x^n + ax^{n-1} + bx^{n-2} \dots = y$$

to one of these forms. For, taking the $\frac{1}{n}$ th power of both sides of the equation, and expanding the left-hand radicle by the multinomial theorem, we shall obtain the equation in the forms

$$x + p_1 x^2 + p_2 x^3 \dots = \sqrt[n]{y}, \quad \text{or} \quad x + p_1 + p_2 x^{-1} \dots = \sqrt[n]{y},$$

as required. And the solutions will have n values.

(9) Solve

$$\log(1+x) = y, \quad \text{and} \quad x^x = y.$$

$$[\beta - \frac{1}{2}\beta^2 + \frac{1}{3}\beta^3 \dots]^{-1} = \beta + \frac{\beta^2}{2} + \frac{\beta^3}{3} \dots = e^y - 1,$$

and
$$\left[\beta + \beta^2 + \frac{\beta^3}{2} \dots \right]^{-1} = \beta - \beta^2 + \frac{1}{2}\beta^3 - \frac{1}{6}\beta^4 \dots$$

16. *General Expression for the Invert of a Linear Algebraic Operation.*—Let

$$x^n + p_1 x^{n+1} + p_2 x^{n+2} \dots = y,$$

$$x^n + p_{-1} x^{n-1} + p_{-2} x^{n-2} \dots = y$$

be the general forms of the equation requiring solution; and let

$$\phi_n = \beta^n + p_1 \beta^{n+1} + p_2 \beta^{n+2} \dots,$$

$$\psi_n = \beta^n + p_{-1} \beta^{n-1} + p_{-2} \beta^{n-2} \dots$$

the number of terms being quite indefinite. We have then to find expressions for $[\phi_n]^{-1}$ and $[\psi_n]^{-1}$.

Suppose

$$[\phi_n]^{-1} = \beta^{\frac{1}{2}} - t_1 \beta^{\frac{3}{2}} + t_2 \beta^{\frac{5}{2}} + t_3 \beta^{\frac{7}{2}} \dots$$

and let

$$(\phi_n)^{\frac{1}{2}} = \beta - e_1 \beta^2 - e_2 \beta^3 \dots,$$

$$(\phi_n)^{\frac{3}{2}} = \beta^2 + b_1 \beta^3 + b_2 \beta^4 \dots$$

$$(\phi_n)^{\frac{5}{2}} = \beta^3 - c_1 \beta^4 - c_2 \beta^5 \dots$$

Then, by operative division,

$$\begin{array}{r}
 \beta^n + p_1 \beta^{n+1} + p_2 \beta^{n+2} \dots \mid \beta \quad \left(\beta^{\frac{1}{n}} + t_1 \beta^{\frac{2}{n}} + t_2 \beta^{\frac{3}{n}} + t_3 \beta^{\frac{4}{n}} \dots \right. \\
 \underline{\beta + a_1 \beta^2 + a_2 \beta^3 \dots} \\
 -a_1 \beta^2 - a_2 \beta^3 - a_3 \beta^4 \dots \\
 \underline{t_1 \beta^2 + t_1 b_1 \beta^3 + t_1 b_2 \beta^4 \dots} \\
 -(t_1 b_1 + a_2) \beta^3 - (t_1 b_2 + a_3) \beta^4 - (t_1 b_3 + a_4) \beta^5 \dots \\
 \underline{t_2 \beta^3 + t_2 c_1 \beta^4 + t_2 c_2 \beta^5} \\
 -(t_2 c_1 + t_1 b_2 + a_3) \beta^4 - (t_2 c_2 + t_1 b_3 + a_4) \beta^5 \dots \\
 \underline{t_3 \beta^4 + t_3 d_1 \beta^5}
 \end{array}$$

Hence,

$$t_1 = -a, \quad t_2 = -t_1 b_1 - a_2, \quad t_3 = -t_2 c_1 - t_1 b_2 - a_3;$$

and, generally,

$$t_r + t_{r-1} k_1 + t_{r-2} j_2 \dots t_2 c_{r-2} + t_1 b_{r-1} + a_r = 0.$$

Now, let us denote the successive coefficients in the ordinary algebraic expansion of the m^{th} power of a multinomial by

$$(m)_1, (m)_2, (m)_3, \dots;$$

so that

$$(\phi_n)^m = \beta^{nm} + (m)_1 \beta^{nm+1} + (m)_2 \beta^{nm+2}.$$

Then it will be found by reductions that

$$(m)_1 + \frac{1}{2}(-2m) = 0, \quad (m)_2 + \frac{1}{2}(-2m)_1 (2m)_1 + \frac{1}{2}(-3m) = 0,$$

$$(m)_3 + \frac{1}{2}(-2m)_1 (2m)_2 + \frac{1}{2}(-3m)_2 (3m)_1 + \frac{1}{2}(-4m)_3 = 0,$$

and generally,

$$(m)_r + \frac{1}{2}(-2m)_1 (2m)_{r-1} + \frac{1}{2}(-3m)_2 (3m)_{r-2} \dots \frac{1}{r+1}(-(r+1)m)_r = 0.$$

And this is true, if m be a fraction such as $\frac{1}{n}$. Now the coefficients a, b, c, \dots employed above may be written

$$\left(\frac{1}{n}\right)_r, \left(\frac{2}{n}\right)_r, \left(\frac{3}{n}\right)_r, \dots,$$

with the proper subscripts. Hence the result of (1) may be written (in reversed order),

$$\left(\frac{1}{n}\right)_r + t_1 \left(\frac{2}{n}\right)_{r-1} + t_2 \left(\frac{3}{n}\right)_{r-2} + \dots t_{r-1} \left(\frac{r}{n}\right)_1 + t_r = 0.$$

Comparing this with (2), we have

$$t_1 = \frac{1}{2} \left(-\frac{2}{n} \right), \quad t_2 = \frac{1}{3} \left(-\frac{3}{n} \right)_2, \quad t_3 = \frac{1}{4} \left(-\frac{4}{n} \right)_3, \dots, \quad t_r = \frac{1}{r+1} \left(-\frac{r+1}{n} \right)_r,$$

that is, the coefficients of β in the expansion of $[\phi_n]^{-1}$ are ordinary multinomial coefficients divided by an integer, and are therefore already well known.

The coefficients of β in the expansion of $[\psi_n]^{-1}$ can be obtained in the same manner, so that we have

$$[\phi_n]^{-1} = \beta^{\frac{1}{n}} + \frac{1}{2} \left(-\frac{2}{n} \right)_1 \beta^{\frac{2}{n}} + \frac{1}{3} \left(-\frac{3}{n} \right)_2 \beta^{\frac{3}{n}} + \frac{1}{4} \left(-\frac{4}{n} \right)_3 \beta^{\frac{4}{n}} + \dots$$

$$[\psi_n]^{-1} = \beta^{\frac{1}{n}} - \frac{1}{0} \left(\frac{0}{n} \right)_1 \beta^{-\frac{0}{n}} - \frac{1}{1} \left(\frac{1}{n} \right)_2 \beta^{-\frac{1}{n}} - \frac{1}{2} \left(\frac{2}{n} \right)_3 \beta^{-\frac{2}{n}} - \dots$$

The coefficient $-\frac{1}{0} \left(\frac{0}{n} \right)_1$ is written thus for symmetry, and equals

$$-\frac{1}{n}.$$

The following points may be observed:—

(1) In the coefficients, the quantity within the brackets is the same as the exponent of β of the same term, *with the sign changed*.

(2) Each term is divided by the numerator of the exponent of β *with its proper sign*.

(3) The numbering of the coefficients as given by the subscripts 1, 2, 3, . . . is always the same, no matter what the powers of β may be. This follows from the fact that the multinomial coefficients are independent of the powers of the variable or base.

(4) Each power of β is a power of $\sqrt[n]{\beta}$, so that the expression has n values, and is also an operation performed on $\sqrt[n]{\beta}$. Let χ denote this operation, so that $[\phi_n]^{-1} = [\chi] \sqrt[n]{\beta}$. Then

$$\chi = [\phi_n]^{-1} \beta^n = [(\phi_n)^{\frac{1}{n}}]^{-1},$$

that is, is the invert of the $\frac{1}{n}$ th power of ϕ —which justifies the method of solution mentioned in § 15-8.

17. *The General Expression in Detail*.—We know that (1) every multinomial coefficient is the sum of various combinations of the

coefficients of the original multinomial, each combination being affected by its proper *binomial coefficient*; and (2) that the *form* of the multinomial coefficients $(m)_1, (m)_2, \dots$ does not change whatever the value of m , that is, the exponent of the original multinomial, may be (unless it is unity). Hence the form of each coefficient of $[\phi_n]^{-1}$ must be the same as that of the corresponding coefficient of $(\phi_n)^{-1}$, the only difference being that the binomial coefficients are different. In order, then, to write out the value of $[\phi_n]^{-1}$ we have only to write out that of $(\phi_n)^{-1}$ and then make the necessary changes in the binomial coefficients of the various combinations of p_1, p_2, p_3, \dots . A few terms of the series are now written out for comparison and use.

$$\begin{aligned} (\phi_n)^{-1} &= (\beta^n + p_1\beta^{n+1} + p_2\beta^{n+2} \dots)^{-1} \\ &= \beta^{-n} + (-1)p_1\beta^{-n+1} + \left\{(-1)p_2 + \frac{(-1)^{(2)}}{2} p_1^2\right\} \beta^{-n+2} \\ &\quad + \left\{(-1)p_3 + \frac{(-1)^{(3)}}{2} 2p_1p_2 + \frac{(-1)^{(3)}}{3} p_1^3\right\} \beta^{-n+3} + \text{etc.} \end{aligned}$$

$$\begin{aligned} [\phi_n]^{-1} &= [\beta^n + p_1\beta^{n+1} + p_2\beta^{n+2} \dots]^{-1} \\ &= \beta^{\frac{1}{n}} + \frac{1}{2} \left(-\frac{2}{n}\right) p_1\beta^{\frac{2}{n}} + \frac{1}{3} \left\{\left(-\frac{3}{n}\right) p_2 + \left(-\frac{3}{n}\right)^{(2)} \frac{p_1^2}{2}\right\} \beta^{\frac{3}{n}} \\ &\quad + \frac{1}{4} \left\{\left(-\frac{4}{n}\right) p_3 + \left(-\frac{4}{n}\right)^{(2)} \frac{2p_1p_2}{2} + \left(-\frac{4}{n}\right)^{(3)} \frac{p_1^3}{3}\right\} \beta^{\frac{4}{n}} \\ &\quad + \frac{1}{5} \left\{\left(-\frac{5}{n}\right) p_4 + \left(-\frac{5}{n}\right)^{(2)} \frac{2p_1p_3 + p_2^2}{2} + \left(-\frac{5}{n}\right)^{(3)} \frac{3p_1^2p_2}{3}\right. \\ &\quad \left. + \left(-\frac{5}{n}\right)^{(4)} \frac{p_1^4}{4}\right\} \beta^{\frac{5}{n}} \\ &\quad + \frac{1}{6} \left\{\left(-\frac{6}{n}\right) p_5 + \left(-\frac{6}{n}\right)^{(2)} \frac{2p_1p_4 + 2p_2p_3}{2} + \left(-\frac{6}{n}\right)^{(3)} \frac{3p_1^2p_3 + 3p_1p_2^2}{3}\right. \\ &\quad \left. + \left(-\frac{6}{n}\right)^{(4)} \frac{4p_1^3p_2}{4} + \left(-\frac{6}{n}\right)^{(5)} \frac{p_1^5}{5}\right\} \beta^{\frac{6}{n}} + \text{etc.} \end{aligned}$$

$$\begin{aligned} [\phi_1]^{-1} &= [\beta + p_1\beta^2 + p_2\beta^3 \dots]^{-1} \\ &= \beta - p_1\beta^2 - (p_2 - 2p_1^2)\beta^3 - (p_3 - 5p_1p_2 + 5p_1^3)\beta^4 \\ &\quad - \{p_4 - 3(2p_1p_3 + p_2^2) + 21p_1^2p_2 - 14p_1^4\}\beta^5 \\ &\quad - \{p_5 - 7(p_1p_4 + p_2p_3) + 28(p_1^3p_2 + p_1p_2^2) - 84p_1^2p_3 + 42p_1^5\}\beta \\ &\quad + \text{etc.} \end{aligned}$$

$$\begin{aligned}
 (\psi_n)^{-1} &= (\beta^n + p_{-1}\beta^{n-1} + p_{-2}\beta^{n-2} \dots)^{-1} \\
 &= \beta^{-n} + (-1) p_{-1}\beta^{-n+1} + \left\{ (-1) p_{-2} + \frac{(-1)^{(2)}}{[2]} p_{-1}^2 \right\} \beta^{-n+2} + \text{etc.}
 \end{aligned}$$

$$\begin{aligned}
 [\psi_n]^{-1} &= [\beta^n + p_{-1}\beta^{n-1} + p_{-2}\beta^{n-2} \dots]^{-1} \\
 &= \beta^{\frac{1}{n}} - \frac{1}{0} \left(\frac{0}{n} \right) p_{-1} \beta^0 - \frac{1}{1} \left\{ \left(\frac{1}{n} \right) p_{-2} + \left(\frac{1}{n} \right)^{(2)} \frac{p_{-1}^2}{[2]} \right\} \beta^{-\frac{1}{n}} \\
 &\quad - \frac{1}{2} \left\{ \frac{2}{n} p_{-3} + \left(\frac{2}{n} \right)^{(2)} \frac{2p_{-1}p_{-2}}{[2]} + \left(\frac{2}{n} \right)^{(3)} \frac{p_{-1}^3}{[3]} \right\} \beta^{-\frac{2}{n}} \\
 &\quad - \frac{1}{3} \left\{ \frac{3}{n} p_{-4} + \left(\frac{3}{n} \right)^{(2)} \frac{2p_{-1}p_{-3} + p_{-2}^2}{[2]} + \left(\frac{3}{n} \right)^{(3)} \frac{3p_{-1}^2p_{-2}}{[3]} \right. \\
 &\quad \left. + \left(\frac{3}{n} \right)^{(4)} \frac{p_{-1}^4}{[4]} \right\} \beta^{-\frac{3}{n}} \\
 &\quad - \frac{1}{4} \left\{ \frac{4}{n} p_{-5} + \left(\frac{4}{n} \right)^{(2)} \frac{2p_{-1}p_{-4} + 2p_{-2}p_{-3}}{[2]} + \left(\frac{4}{n} \right)^{(3)} \frac{3p_{-1}^2p_{-3} + 3p_{-1}p_{-2}^2}{[3]} \right. \\
 &\quad \left. + \left(\frac{4}{n} \right)^{(4)} \frac{4p_{-1}^3p_{-2}}{[4]} + \left(\frac{4}{n} \right)^{(5)} \frac{p_{-1}^5}{[5]} \right\} \beta^{-\frac{4}{n}} - \text{etc.}
 \end{aligned}$$

$$\begin{aligned}
 [\psi_1]^{-1} &= [\beta + p_{-1}\beta^0 + p_{-2}\beta^{-1} + p_{-3}\beta^{-2} \dots]^{-1} \\
 &= \beta - p_{-1} - p_{-2}\beta^{-1} - (p_{-3} + p_{-1}p_{-2})\beta^{-2} - (p_{-4} + 2p_{-1}p_{-3} + p_{-2}^2 + p_{-1}^2p_{-2})\beta^{-3} \\
 &\quad - \{p_{-5} + 3p_{-1}p_{-4} + 3p_{-2}p_{-3} + 3p_{-1}^2p_{-3} + 3p_{-1}p_{-2}^2 + p_{-1}^3p_{-2}\}\beta^{-4} - \text{etc.}
 \end{aligned}$$

It will, of course, be understood that

$$(m)^{(r)} = m(m-1) \dots (m-r+1),$$

and that

$$(-m)^{(r)} = (-1)^r m(m+1) \dots (m+r-1).$$

Hence, operative inverses can be quickly obtained by the following rules:—

(1) Write out the algebraic invert of

$$\beta^n - p_{11}\beta^{n+1} - p_{12}\beta^{n+2} - p_{13}\beta^{n+3} \dots,$$

either by algebraic division, or by the multinomial theorem; if the latter be selected, expand

$$\beta^{-n} \{1 - (p_{11}\beta + p_{12}\beta^2 \dots)\}^{-1},$$

and rearrange, if necessary, in terms of β .

- (2) Increase every exponent of β by $n + 1$, and then divide it by n .
 (3) Multiply each combination of $p_{11}, p_{12}, p_{13} \dots$ by

$$\frac{1}{ns} \frac{(-s)^{(r)}}{[r]},$$

where s is the new exponent of β of that term, and r is the order of the combination referred to.

18. *Deduction by "Weights" of the Original Coefficients.*—There is another rule for obtaining the series for $[\phi_n]^{-1}$, by writing out the value of $(1 - p_1 - p_2 - p_3 \dots)^{-1}$; that is,

$$1 + (p_1 + p_2 + p_3 \dots) + (p_1 + p_2 \dots)^2 + (p_1 + p_2 \dots)^3 + \dots$$

and then attaching the proper elements to the various combinations of $p_1, p_2, p_3 \dots$. The same rule applies to the value of $[\psi_n]^{-1}$, in which the subscripts of p are negative.

Suppose we have the combination $p_{w'} p_{w''}$, and require to attach the proper elements to it. Let w' , and w'' be called the *weights* of the original coefficients; and suppose that the weight of the whole combination, which we may write $P_{w'}$, is the sum of the weights of the factors—that is,

$$w = r'w' + r''w''.$$

Similarly, the *order* of $P_{w'}$ is the sum of the exponents of the factors. Now, in examining the series for $[\phi_n]^{-1}$ and $[\psi]^{-1}$, given in the previous section, we shall see that the power of β attached to $P_{w'}$ is

always $\beta^{\frac{1+w}{n}}$, and that the corresponding coefficient due to operative inversion is always

$$\frac{1}{1+w} \left(-\frac{1+w}{n} \right)^{(r)} \frac{1}{[r]}.$$

Hence, after writing out the value of

$$(1 - p_1 - p_2 \dots)^{-1},$$

we have only to attach these elements to each combination of $p_1, p_2 \dots$, which already possesses its proper binomial coefficient obtained from the expansions of the successive integral powers of

$$(p_1 + p_2 + p_3 \dots);$$

and it will be found that the result will agree, after rearrangement of the terms, with the series already given.

Of course, the weights of the original coefficients p_1, p_2, \dots are the same as their subscripts, which are the same as the exponent of the attached power of β , minus n . Thus, for inversion by this method the operation

$$\beta^{-\frac{1}{2}} + a\beta^{\frac{1}{2}}$$

should be written

$$\beta^{-\frac{1}{2}} + a \frac{1}{\sqrt[10]{\beta}} \beta^{-\frac{1}{2} + \frac{1}{10}}.$$

The result will agree with that of § 15-4. Negative weights are dealt with in the same way as the positive weights; and the ordinary algebraic expansion of a multinomial can be written out by means of a similar rule.

The name "weights" is appropriate for the following reason:— Let $\nu = \beta^{\frac{1}{n}}$, and consider the combination $6p_1p_2p_3$. The attached power of ν must be ν^{-5} ; so that the whole term may be written

$$\frac{1}{5} \left(\frac{5}{n} \right)^{(3)} \frac{1}{[3]} 6 \frac{p_1}{\nu} \frac{p_2}{\nu^2} \frac{p_3}{\nu^2} \nu.$$

Similarly, every term in the series for $[\psi_n]^{-1}$ consists of the same ratios multiplied by ν and coefficients. Thus, the coefficient p_w is always associated with β^w in the original operation, and with ν^w in its invert.

Now, let O be a symbolic distributive operator which denotes that the coefficients indicated by

$$\frac{1}{1+w} \left(-\frac{1+w}{n} \right)^{(r)} \frac{1}{[r]}$$

are to be attached to the various combinations of p_1, p_2, \dots ; then

$$[\beta^n (1 + p_1\beta + p_2\beta^2 \dots)]^{-1} = O \{ \nu (1 - p_1\nu - p_2\nu^2 - p_3\nu^3 \dots)^{-1} \},$$

$$\begin{aligned} \text{and } \left[\beta^n \left(1 + \frac{p_1}{\beta} + \frac{p_2}{\beta^2} \dots \right) \right]^{-1} &= O \left\{ \nu \left(1 - \frac{p_1}{\nu} - \frac{p_2}{\nu^2} - \frac{p_3}{\nu^3} \dots \right)^{-1} \right\} \\ &= \nu \left\{ 1 + O \left(\frac{p_1}{\nu} + \frac{p_2}{\nu^2} + \frac{p_3}{\nu^3} \dots \right) + O \left(\frac{p_1}{\nu} + \frac{p_2}{\nu^2} \dots \right)^2 + O \left(\frac{p_1}{\nu} + \frac{p_2}{\nu^2} \dots \right)^3 + \dots \right\}, \end{aligned}$$

where $\nu = \sqrt[n]{\beta}$.

19. *Remarks.*—(1) The coefficients produced by O may be stated in various ways, and can easily be tabulated; O itself may be replaced by a series of differential operators; and the two whole series may be recast in several forms. It is impossible to examine these details here; but it should be noted that

$$[\beta^n + p_{-1}\beta^{n-1} + p_{-2}\beta^{n-2} \dots]^{-1} \\ = - (?) \beta^{\frac{1}{2}} + [\beta^n + p_{-1}\beta^{n-1}]^{-1} + [\beta^n + p_{-2}\beta^{n-2}]^{-1} + [\beta^n + p_{-3}\beta^{n-3}]^{-1} + \text{etc.} \\ + \text{terms involving compounds of } p_{-1}, p_{-2}, \dots;$$

and also that it

$$= \beta^{\frac{1}{2}} \left\{ 1 - \frac{1}{\pi} \log \left(1 + \frac{p_{-1}}{\nu} + \frac{p_{-2}}{\nu} \dots \right) + \text{terms divided by } n^2 [2, n^2 [3, \dots] \right\}.$$

(2) The general equation $[f]x = y$ is dealt with by expanding $[f]x$ in powers of x or $[\phi]x$, and then inverting the expansion by operative division. Thus,

$$[f_0 + f'_0 \beta + \dots]^{-1} = \beta - \frac{f''_0}{f'_0 [2]} \beta^2 + \dots,$$

where the β of the invert operates on $\frac{\beta - f_0}{f'_0}$.

(3) It must be remembered that, though the subject of an operation be unreal, the result need not be so; for example,

$$[\beta^2 - 3\beta]^{-1}(-2) = [\chi] \sqrt{-2} = \pm \sqrt{\frac{1}{2}} + \frac{1}{2}.$$

20. *Superior Division and Synthetic Division.*—These processes may be briefly referred to here, as they help to demonstrate the fact that the results arrived at above are of the nature of perfect identities. If $\phi = [\psi]\chi$, then the value of χ , that is, $[\psi]^{-1}\phi$ can be found by *superior division* without first finding the value $[\psi]^{-1}$. The process is similar to that of inferior division given above, except that the whole divisor, ψ , now operates on the whole quotient. As each subtrahend is formed, terms already used in previous subtrahends are omitted. Of course $\psi \setminus \beta = \beta // \psi$. *Synthetic division* may be employed to obtain an invert without having recourse to expansions of multinomials raised to fractional powers. For suppose we require the invert of

$$\beta^n + a\beta^{n-1} + b\beta^{n-2} \dots$$

Assume it is of the form

$$\beta^{\frac{1}{n}} + t_1 \beta^0 + t_2 \beta^{-\frac{1}{n}} \dots,$$

and operate on this with

$$\beta^n, \quad a\beta^{n-1}, \quad b\beta^{n-2} \dots,$$

in succession, and add the partial results. In order that the whole result shall equal β , the coefficients of every power of β except β^1 must vanish. This condition gives us a series of equations,

$$nt_1 + a = 0, \quad \frac{n}{2} t_1^2 + nt_2 + (n-1)at_1 + b = 0, \text{ etc.,}$$

to solve: from which we obtain the values of t_1, t_2, \dots already known. But they have now been obtained without assuming the multinomial theorem for fractional indices.

21. *Verifications.*—As mentioned in § 15, objections to expansions on the ground of divergency of series are not generally applicable to verb-functions, because these have no quantitative value. For them the expansions are identities, provided only that the whole expansion be considered.¹ It is therefore immaterial whether integral or fractional indices be employed. On the other hand, an expansion obtained by an ascending process cannot generally be equated with one obtained by a descending process, as one may possess more potencies than the other.

The results given above may be shown by many methods to be identities—notably by resolving

$$[\phi_n]^{-1} \phi_n, \quad [\phi_n][\phi_n]^{-1} \quad \text{and} \quad [[\phi_n]^{-1}]^{-1},$$

when the issue will be found to be $\beta = \beta$. This is due to the many properties of the multinomial coefficients.

In order to facilitate the work, it will be useful to give an expression for the r^{th} algebraic power of $[\phi_n]^{-1}$ and $[\psi_n]^{-1}$. This can be obtained directly by the multinomial theorem; or by operative division into β^r instead of into β ,

$$\text{since} \quad \frac{\beta^r}{\phi_n} = ([\phi_n]^{-1})^r;$$

¹ Compare Russell: Principles of Mathematics, Vol. I., chap. xxiv.

or by dividing β by

$$\beta^{\frac{n}{r}} + p_1 \beta^{\frac{n+1}{r}} + p_2 \beta^{\frac{n+2}{r}} \dots,$$

since

$$[\beta^r][\phi_n]^{-1} = [[\phi_n][\beta^r]]^{-1}.$$

We find

$$\begin{aligned} ([\phi_n]^{-1})^r &= \beta^{\frac{r}{n}} + \frac{r}{r+1} \left(-\frac{r+1}{n} \right)_1 \beta^{\frac{r+1}{n}} + \frac{r}{r+2} \left(-\frac{r+2}{n} \right)_2 \beta^{\frac{r+2}{n}} \\ &\quad + \frac{r}{r+3} \left(-\frac{r+3}{n} \right)_3 \beta^{\frac{r+3}{n}} + \dots \end{aligned}$$

$$\begin{aligned} ([\psi_n]^{-1})^r &= \beta^{\frac{r}{n}} + \frac{r}{r-1} \left(-\frac{r-1}{n} \right)_1 \beta^{\frac{r-1}{n}} + \frac{r}{r-2} \left(-\frac{r-2}{n} \right)_2 \beta^{\frac{r-2}{n}} \\ &\quad + \frac{r}{r-3} \left(-\frac{r-3}{n} \right)_3 \beta^{\frac{r-3}{n}} + \dots \end{aligned}$$

By putting $-n, -r$ for n, r in either of these, we obtain the other. Thus, if the original coefficients are the same,

$$(\phi_n^{-1})^{-r} = (\psi_n^{-1})^r;$$

that is,

$$\phi_n^{-1} \cdot \psi_n^{-1} = 1,$$

which is verified by the evident relations

$$\psi_n = [\phi_n] \beta^{-1}, \text{ and } \beta_n = [\psi_n] \beta^{-1}.$$

The series for $[\phi_n]^{-1}$ and $[\psi_n]^{-1}$ can be obtained by other routes than operative division—by differential means, and by obtaining a general value for $[\phi_n]^r$ and $[\psi_n]^r$. So far as the writer can ascertain, however, they are not generally known; but the series for $[\phi_1]^{-1}$, giving a single root, has been previously obtained by the method attributed to Lagrange and developed by Murphy, and also by way of Lagrange's and Burmann's differential expansions. It is not the complete invert of the original operation.

So far as can be seen at present, no other series besides those given above will fulfil the necessary condition that

$$[\phi_n][\phi_n]^{-1} \text{ and } [\phi_n]^{-1}[\phi_n]$$

shall equal β only. If the first term of any proposed series for $[\phi_n]^{-1}$ be taken greater than $\beta^{\frac{1}{n}}$, then

$$[\phi_n][\phi_n]^{-1} \text{ and } [\phi_n]^{-1}[\phi_n]$$

will not contain β at all; and if the first term be taken less than $\beta^{\frac{1}{n}}$, we must have a series in which the exponents of β vary from $-\infty$ to $+\infty$; while it is not easy to see how the coefficients can be determined.

22. *The Solution of the Rational Integral Equation $[\psi_n]x = y$, given by $[\chi] \sqrt[n]{y}$, has n values, which are the n Roots of the Equation.*—Let the equation be

$$x^n + p_{-1}x^{n-1} + p_{-2}x^{n-2} \dots p_{-n+1}x = y,$$

the highest term being x^n , and the lowest term not lower than $p_{-n+1}x$; that is, there are no negative powers of x . Then the equation has n roots. Let ψ_n denote the operation performed on x , so that ψ_n now has the restricted meaning that it shall contain no term less than $p_{-n+1}\beta$. Then, by § 16,

$$\begin{aligned} x &= [\psi_n]^{-1}y = [\chi] \sqrt[n]{y} \\ &= \left[\beta - \frac{1}{0} \left(\frac{0}{n} \right)_1 - \frac{1}{1} \left(\frac{1}{n} \right)_2 \beta^{-1} - \frac{1}{2} \left(\frac{2}{n} \right)_3 \beta^{-2} - \frac{1}{3} \left(\frac{3}{n} \right)_4 \beta^{-3} \dots \right] \sqrt[n]{y}. \end{aligned}$$

But $\sqrt[n]{y}$ has n values; let them be denoted by a, b, c, d, \dots ; and let

$$x_1 = [\chi] a, \quad x_2 = [\chi] b, \quad x_3 = [\chi] c, \dots$$

Then we have to show that x_1, x_2, x_3, \dots are really and exactly the n roots of the equation

$$[\psi_n]x - y = 0.$$

This may be surmised to be the case; but it will be advisable to seek further proof. If x_1, x_2, x_3, \dots are really and exactly the roots of the equation, then must

$$(x - x_1)(x - x_2)(x - x_3) \dots = 0.$$

In other words, x_1, x_2, x_3, \dots must be quantities such that the sum of their products, taken successively one, two, three \dots at a time, shall equal the successive coefficients of the original equation, with the necessary changes of sign; that is, by actually carrying out the multiplication of

$$x - x_1, \quad x - x_2, \quad x - x_3, \dots$$

we shall arrive again at the original equation.

First, we must observe a point in the series for $[\psi_n]^{-1}$, namely, that the coefficients of all the integral powers of β , except β^0 , namely, of

$$\beta^{-\frac{n}{k}}, \beta^{-\frac{2n}{k}}, \beta^{-\frac{3n}{k}} \dots \beta^{-\frac{kn}{k}},$$

where k is a positive integer, all vanish. The general expression for these coefficients is

$$-\frac{1}{kn} \left(\frac{kn}{n} \right)_{kn+1} = -\frac{1}{kn} (k)_{kn+1}.$$

Now, by the definition in § 16, $(k)_{kn+1}$ denotes the coefficient of the $(kn+2)^{\text{th}}$ term of the expansion of

$$(\beta^n + p_{-1}\beta^{n-1} \dots p_{-n+1}\beta^1)^k.$$

But as k is a positive integer, and as ψ_n has no term lower than $p_{-n+1}\beta^1$, the expansion of $(\psi_n)^k$ can possess only $kn - k + 1$ terms. Hence the $(kn+2)^{\text{th}}$ term must be zero; and the coefficients of the integral powers of β , except β^0 , in the value of $[\psi_n]^{-1}$ must all vanish (but only when the lowest power of β in ψ_n is not lower than β^1).

Now, for brevity, write

$$[\psi_n^{-1}] = [t_1\beta + t_0\beta^0 + t_{-1}\beta^{-1} + t_{-2}\beta^{-2} \dots] \sqrt{\beta}.$$

Then

$$x_1 = t_1a + t_0a^0 + t_{-1}a^{-1} \dots$$

$$x_2 = t_1b + t_0b^0 + t_{-1}b^{-1} \dots$$

$$x_3 = t_1c + t_0c^0 + t_{-1}c^{-1} \dots$$

$$\dots \dots \dots$$

where t_1 is inserted for symmetry and = 1. Hence the sum of all these series should give $-p_{-1}$; and the sum of their products taken successively two, three, . . . , at a time should give successively

$$p_{-2}, -p_{-2}, p_{-4}, \dots;$$

and the product of all together should give $\mp y$.

To study the question we can employ the notation used for symmetrical functions of the roots of an equation, and write

$$S_m = a^m + b^m + c^m \dots;$$

and

$$\Sigma a^m b^r = a^m b^r + a^m c^r + b^m c^r \dots$$

and so on. As a, b, c, \dots are the n^{th} roots of a quantity y ,

S_m always vanishes unless m is a multiple of n , and then it $= nY$, where Y is a constant which need not be considered at the moment.

By adding together the various series just given,

$$x_1 + x_2 + x_3 + \dots = t_1 S_1 + t_0 S_0 + t_{-1} S_{-1} + t_{-2} S_{-2} + \dots$$

Now, $S_r = 0$, unless r be a multiple of n ; and it has just been proved that when r is a multiple of n , t_r always vanishes, unless $r = 0$. Hence $t_r S_r$ vanishes, unless $r = 0$; that is, the only term which remains in the sum of the several series is the second one, namely, $t_0 S_0$, and this

$$= n \left(- \frac{p-1}{n} \right).$$

Thus the sum of the values of x obtained from $[X] \sqrt{y}$ is equal to $-p-1$.

By multiplying x_1, x_2, x_3, \dots together two at a time, and adding, we have

$$\begin{aligned} \Sigma(x_1 x_2) &= t_1 t_1 \Sigma(ab) + t_1 t_0 \Sigma a^1 b^0 + \{t_1 t_{-1} \Sigma a^1 b^{-1} + t_0 t_0 \Sigma(ab)^0\} \\ &+ \{t_1 t_{-2} \Sigma a^1 b^{-2} + t_0 t_{-1} \Sigma a^0 b^{-1}\} + \{t_1 t_{-3} \Sigma a^1 b^{-3} + t_0 t_{-2} \Sigma a^0 b^{-2} + t_{-1} t_{-3} \Sigma(ab)^{-1}\} \\ &+ \{t_1 t_{-4} \Sigma a^1 b^{-4} + t_0 t_{-3} \Sigma a^0 b^{-3} + t_{-1} t_{-4} \Sigma a^{-1} b^{-2}\} + \text{etc.} \end{aligned}$$

Since $\Sigma a^m b^r = S_m S_r - S_{m+r}$

and $2\Sigma(ab)^m = S_m^2 - S_{2m}$

and S_m vanishes unless m be a multiple of n , all the terms within the large brackets, except the third and the $(r + kn)^{\text{th}}$ terms, vanish. Substituting the values of t in the latter, and remembering that

$$t_{-kn} = 0,$$

if k be a positive integer, we find that also the $(r + kn)^{\text{th}}$ terms vanish. Hence the only term which remains is the third; so that

$$\begin{aligned} \Sigma(x_1 x_2) &= t_1 t_{-1} \Sigma a^1 b^{-1} + t_0 t_0 \Sigma(ab)^0 = -n t_1 t_{-1} + \frac{n^{(2)}}{2} t_0^2 \\ &= n \left\{ \frac{1}{n} p-2 + \left(\frac{1}{n} \right)^{(2)} \frac{p^2-1}{2} \right\} + \frac{n^{(2)}}{2} \frac{p^2-1}{n^2}. \end{aligned}$$

Thus the sum of the products of x_1, x_2, x_3, \dots taken two at a time is equal to $p-2$.

Taking the series three at a time,

$$\Sigma(x_1 x_2 x_3) = t_1^3 \Sigma(abc)^1 + t_1^2 t_0 \Sigma(ab)^1 c^0 + \{t_1^2 t_{-1} \Sigma(ab)^1 c^{-1} + t_1 t_0^2 \Sigma a^1 (bc)^0\} + \dots$$

The only term which remains after reduction is the fourth one; so that

$$\begin{aligned} \Sigma(x_1 x_2 x_3) &= t_1^3 t_{-3} \Sigma(ab) c^{-3} + t_1 t_0 t_{-1} \Sigma a^1 b^0 c^{-1} + t_0^3 \Sigma(ab) c^0 \\ &= n t_1^3 t_{-3} - n(n-2) t_1 t_0 t_{-1} + \frac{n^{(3)}}{3} t_0^3 \\ &= -p_3. \end{aligned}$$

From the general symmetry of the expressions, we may infer that the sums of higher products are equal to the remaining coefficients of ψ_n in order. The disappearance of the various terms is due to the relations which exist between the coefficient of $[\psi_n]^{-1}$ and the sums denoted by S_n .

In the product of all the quantities $x_1, x_2, x_3 \dots$ only the first term remains after reduction, and this gives

$$x_1 x_2 x_3 \dots = abc \dots;$$

and the product of all the values of $\sqrt[n]{y}$ together = τy .

Hence the value of $[\psi_n]^{-1}$ as calculated by descending operative division is theoretically the *complete* solution of the equation

$$[\psi_n] x = y,$$

when its lowest power of β is not less than β^1 .

As $[\psi_n]^{-1}$ is an *infinite series*, the argument of Abel, Sir William Hamilton, and others is not concerned with it, except as showing that it *cannot be summed in finite terms*.¹ Except when $n = 1$, the solution is a transcendental one. But it is perhaps entitled to be called the general solution, and would appear to be the only general solution possible. We should be scarcely justified in calling the series the *expansion* of $[\psi_n]^{-1}$ —it is rather $[\psi_n]^{-1}$ itself.

23. *Notes on the Solution of Numerical Equations by Operative Division.*—The expression for $[\psi_n]^{-1}$ may be of some theoretical interest because it appears to be the complete invert of a linear algebraic operation of any degree; and it will probably be of service in the Theory of Equations, and in other branches of analysis. Further discussion of it would be out of place in a paper which aims

¹ See Sir William Hamilton's article on Abel's argument, Transactions of the Royal Irish Academy, vol. xviii., 1839.

merely at illustrating some of the elementary uses of verb-functions; but a few words may perhaps be added with advantage on its application to the solution of numerical equations. We may infer that such application is often possible; but must not expect that the roots of a numerical equation can always be obtained with greater rapidity by means of operative division than by the methods of approximation now in use. In some cases operative division will give a very rapid approximation, and in others a slow one; while in others again the series may be divergent, or the subject of the invert may be unreal.

(1) The rational integral equation may be conveniently prepared for treatment by means of two simple preliminary transformations. For example, let

$$ax^4 + bx^3 + cx^2 + dx + e = 0$$

be the given equation. Put

$$x = \frac{y}{a} \quad \text{and} \quad x = \frac{e}{z}.$$

Then

$$\begin{cases} y^4 + by^3 + cay^2 + da^2y + ea^3 = 0, \\ z^4 + dz^3 + cz^2 + be^2z + ae^3 = 0. \end{cases}$$

Both of these forms are free from fractions and can be attacked by the same process, namely, by *descending* division. The equation in z will yield the same result by descending division as the original equation would have yielded by ascending division; that is, after the substitution is made good. (§ 20.)

(2) The rational integral equation

$$x^m + p_{-1}x^{m-1} + p_{-2}x^{m-2} \dots p_{-m+1}x + p_{-m} = 0$$

can be put in $m - 1$ other forms by successive algebraic division by

$$x, x^2, x^3, \dots x^{m-1},$$

and each form can be then dealt with by descending division. The subject of the invert of the original form will be $\sqrt[m]{-p_{-m}}$, having m values; that of the second form (after division by x) will be $\sqrt[m-1]{-p_{-m+1}}$, having $m - 1$ values; that of the third $\sqrt[m-2]{-p_{-m+2}}$ having $m - 2$ values; and so on. Each of these forms can also be dealt with by ascending division; or, by putting

$$x = \frac{p_{-m}}{z},$$

we can obtain a derived equation in x which, when treated by descending division, will give the same results; so that we need only consider formulæ for descending division. Thus the original equation can be attacked in $2m$ ways—as already suggested in § 15 (3).

Taking the biquadratic equation for example, we have

$$x^4 + ax^3 + bx^2 + cx + 0 = -d,$$

$$x^3 + ax^2 + bx + 0 + dx^{-1} = -c,$$

$$x^2 + ax + 0 + cx^{-1} + dx^{-2} = -b,$$

$$x + 0 + bx^{-1} + cx^{-2} + dx^{-3} = -a;$$

and by putting $x = \frac{d}{z}$, we obtain a derived equation in z which has four similar forms—eight altogether.

(3) But on examining the $2m$ inverts derived from these forms, we shall find that most of them are either arithmetically unintelligible, or have unreal subjects. Hence, in order to save labour, we must seek a method for quickly detecting which forms will yield useful results—that is, in the example just given, which of the subjects,

$$-d, \quad -c, \quad -b, \quad -a,$$

may be employed.

Reverting to the general equation

$$x^m + p_{-1}x^{m-1} + p_{-2}x^{m-2} \dots p_{-n+1}x + 0 + p_{-n-1}x^{-1} + p_{-n-2}x^{-2} + \dots = -p_{-n},$$

we obtain, by § 17,

$$x = g \left\{ 1 + O\left(\frac{p_{-1}}{g} + \frac{p_{-2}}{g^2} + \frac{p_{-3}}{g^3} \dots\right) + O\left(\frac{p_{-1}}{g} + \frac{p_{-2}}{g^2} + \frac{p_{-3}}{g^3} \dots\right)^2 + \dots \right\},$$

where $g = \sqrt[m]{-p_{-n}}$, and O denotes the operation of giving the proper coefficients to the terms. Now this expression for x consists of a number of fractions raised to all possible positive integral powers and often combined with each other in various ways. If one of the fractions be greater than unity, the expression for x will contain a certain number of terms which, if for the moment we neglect the effect of O , will tend to infinity. Hence for arithmetical purposes, neglecting the effect of O , all the said fractions must be less than unity. That is, if p_{-n} be any one of the original coefficients,

$\frac{p_{-1}}{g}$ must be less than unity; that is, $\sqrt[m]{-p_{-n}}$ must be greater than

$\sqrt[n]{p_{-n}}$; or, $\sqrt[n]{-p_{-n}}$ must be greater than any of the expressions

$$\sqrt[n]{p_{-1}}, \sqrt[n]{p_{-2}}, \sqrt[n]{p_{-3}}, \dots$$

It is useful to call these expressions the *weight-functions* of the original coefficients.

(4) Next, we consider the effect of O on any term containing only two of the original coefficients. By § 17, the general expression for such a term will be

$$-\frac{g}{at-1} \left(\frac{at-1}{n} \right)^{(t)} \frac{1}{t} \left(\frac{p_{-n}}{g^n} \right)^t,$$

where t is any positive integer from zero to infinity. In order that this shall be always less than unity, that part of it which is governed by t must be less than unity. Now, by the exponential value of $\Gamma(kt+1)$ when t is large, the expression

$$\frac{(kt)^{(t)}}{t!}, \text{ that is, } \frac{(kt)^{(kt)}}{t^t \{t(k-1)\}^{t(k-1)}},$$

takes a similar exponential form. Hence, if $\frac{a}{n} = k$, and t is very large, the coefficient becomes

$$-\frac{g}{at} \sqrt{\frac{kt}{2\pi t \cdot t(k-1)}} \frac{(kt)^{kt}}{t^t \{t(k-1)\}^{t(k-1)}},$$

so that the general term may be written

$$-\frac{\sqrt[n]{-p_{-n}}}{at\sqrt{2\pi t}} \sqrt{\frac{k}{k-1}} \left\{ \frac{k^k}{(k-1)^{k-1}} \cdot \frac{p_{-n}}{(-p_{-n})^k} \right\}^t;$$

and if the term is to be ultimately always less than unity, we must have

$$\left(-\frac{a-n}{a} p_{-n} \right)^a > \left(\frac{a-n}{n} p_{-n} \right)^n.$$

the inequality being numerical. Hence, if $-p_{-n}$ is to be made the subject of the invert, it must always be numerically greater than

$$\sqrt[n]{\frac{a^n}{(a-n)^{a-n} n^n} p_{-n}^{n-a}}.$$

For example,

$$-p_{-1} > \sqrt{2^2 p_{-2}}, \sqrt[3]{\frac{3^3}{2^2} p_{-3}}, \sqrt[4]{\frac{4^4}{3^3} p_{-4}}, \sqrt[5]{\frac{5^5}{4^4} p_{-5}}, \dots$$

$$-p_{-2} > \sqrt[3]{\frac{3^3}{2^2} p_{-3}}, \sqrt[4]{\frac{4^4}{2^2 \cdot 2^2} p_{-4}}, \sqrt[5]{\frac{5^5}{3^3 \cdot 2^2} p_{-5}}, \sqrt[6]{\frac{6^6}{4^4 \cdot 2^2} p_{-6}}, \dots$$

$$-p_{-3} > \sqrt[4]{\frac{4^4}{3^3} p_{-4}}, \sqrt[5]{\frac{5^5}{2^2 \cdot 3^3} p_{-5}}, \sqrt[6]{\frac{6^6}{3^3 \cdot 3^3} p_{-6}}, \sqrt[7]{\frac{7^7}{4^4 \cdot 3^3} p_{-7}}, \dots$$

and so on.

(5) Thus, consider the quadratic

$$x^2 + p_{-1}x + p_{-2} = 0.$$

If we wish to obtain a single root by inverting the form

$$x + p_{-2}x^{-1} = -p_{-1},$$

then this will be possible only when p_{-1} is numerically greater than

$$\sqrt{4p_{-2}}; \text{ that is, when } p_{-1}^2 > 4p_{-2}.$$

If p_{-2} be positive and greater than $\frac{1}{4}p_{-1}^2$, the series becomes divergent, and at the same time the root becomes unreal. If p_{-2} be negative and numerically greater than $\frac{1}{4}p_{-1}^2$, the series is divergent though the root is real. In this case, however, both roots can be obtained at once by operative division from the form

$$x^2 + p_{-1}x = -p_{-2}.$$

The same condition holds with regard to any trinomial equation

$$x^n + p_{-1}x^{n-1} + p_{-n} = 0.$$

Take

$$x^3 + 10x^2 + 2 = 0.$$

Here $p_{-1} = 10$, and $p_{-3} = 2$; and obviously 10 is the predominant coefficient, because

$$10 > \sqrt[3]{\frac{5^3}{4^4} 2}.$$

We can, therefore, obtain a single root from the form

$$x + 2x^{1-3} = -10$$

and the approximation will be rapid, because the ratio of the weight functions, namely, $\frac{\sqrt[5]{2}}{10}$, is comparatively small. Then, either by division, or directly from the formula of § 15 (5),

$$x = -10 - \frac{2}{10^4} + \frac{8}{2} \frac{2^2}{10^9} - \frac{13.12}{3} \frac{2^3}{10^{14}} \dots = -10.00019998400208 \dots$$

Next, putting $x = \frac{2}{z}$, we have the derived equation $z^4 + 80z + 16 = 0$, where $p_{-1} = 80$, and $p_{-3} = 16$. The first is evidently the predominant coefficient, because

$$\left(\frac{80}{5}\right)^5 > \left(\frac{16}{4}\right)^4;$$

but, on taking the form $z^4 + 16z^{-1} = -80$, the subject $\sqrt[4]{-80}$ is seen to be unreal.

(6) The equation given in (3) may be called the *critical equation* for trinomial equations, because it enables us to detect without difficulty the proper subject for the invert. Researches on the similar conditions which must hold for quadrinomials and higher forms cannot, unfortunately, be completed in time for this paper; but so far as can be seen, the trinomial critical equation will roughly serve for the others. It will therefore be used for the following examples; but, in some polynomials, the first terms of the invert appear to give correct approximations, even though the rest of the series would appear by the test adopted to be divergent.

The critical equation may be applied as follows to the general equation:—

$$x^m + p_{-1}x^{m-1} + p_{-2}x^{m-2} \dots p_{-m} = 0.$$

We first see (mere inspection often suffices) if p_{-1} is greater than

$$\sqrt[3]{4p_{-2}}, \quad \sqrt[3]{\frac{8}{3}p_{-3}}, \text{ etc.}$$

If it is greater than they all, we divide the equation by x^{m-1} , so as to make $-p_{-1}$ the subject—the invert will give one root. If p_{-1} does not predominate, we try whether p_{-2} is greater than

$$\sqrt[3]{\frac{8}{3}p_{-3}}, \quad \sqrt[4]{16p_{-4}}, \text{ etc.}$$

If it is, we make it the subject by dividing the original equation by x^{m-2} , the invert now giving two roots. If not, we try with p_{-3} ; and so on. We then apply the same procedure to the derived equation in z .

(7) For further examples, it will be advisable to consider the equations given in a text-book¹ for illustrating the ordinary methods of approximation.

The equation $x^3 - 2x - 5 = 0$ was Newton's example for his method of approximation, and has a root = $2.09455148 \dots$. Here, $p_2 = -2$, and $p_3 = -5$. Evidently, $8 < \frac{2}{3} 25$, so that we must use the full form $x^3 - 2x = 5$. As $\sqrt[3]{\frac{2}{5}}$ is little less than unity, the approximation will be slow. Putting g for $\sqrt[3]{5}$, we have, from the formula

$$\begin{aligned} x &= g \left\{ 1 + \frac{1}{3} \frac{2}{g^2} - \frac{1}{3} \frac{2}{3} \frac{1}{3} \frac{1}{3} \left(\frac{2}{g^2} \right)^2 + \frac{1}{3} \frac{4}{3} \frac{1}{3} \frac{2}{3} \frac{1}{3} \left(\frac{2}{g^2} \right)^3 - \dots \right\} \\ &= 1.71 (1 + .22800 - .00395 + .00090 \dots) \\ &= 2.09464. \end{aligned}$$

Only five places of decimals have been preserved, and a low approximation given to the value of $\sqrt[3]{5}$.

The equation

$$2x^3 - 473x^2 - 234x - 711 = 0$$

has been taken to illustrate Horner's method of approximation, and has the commensurable root 237. The predominant coefficient is evidently $\frac{4}{3}$, and the rate of approximation high. Hence we find at once from the form

$$y - 468y^{-1} - 2844y^{-2} = 473,$$

where $x = \frac{1}{3}y$, that

$$\begin{aligned} x &= \frac{1}{3} \left\{ 473 + \frac{468}{473} + \frac{2844}{(473)^2} - \dots \right\} = \frac{1}{3} (473 + .989 + .012 \dots) \\ &= 237.00 \dots \end{aligned}$$

The equation $x^3 - 3x^2 - 2x + 5 = 0$ is used to illustrate Horner's method for incommensurable roots. It has three which are given as

$$3.128 \dots, \quad 1.2016 \dots, \quad \text{and} \quad -1.330058739 \dots$$

The coefficient 3 is evidently $> \sqrt{8}$, and nearly as great as

$$\sqrt[3]{\frac{27}{4} 5}.$$

¹ Todhunter's "Theory of Equations," 3rd Edition.

We will nevertheless take it for the subject in order to illustrate the remark in (6), although -5 is really the proper subject. As $\frac{5}{8}$ is not small, the approximation is slow. We have (see Table),

$$x = 3 + \frac{2}{3} - \frac{5}{9} - \frac{4}{27} + 3 \frac{10}{81} - 2 \frac{25}{243} \dots = 3.121 \dots$$

from the six terms.

Next in the derived equation

$$x^3 - 2x^2 - 15x + 25 = 0,$$

where

$$x = \frac{5}{2},$$

the coefficient 15 is nearly as large as

$$\sqrt[3]{\frac{27}{4} (25)^2},$$

while

$$\sqrt[3]{15} > \sqrt[3]{25}.$$

We have therefore (see Table) where $g = \sqrt[3]{15}$

$$x = g + \frac{1}{2} 2 + \frac{1}{8} \frac{4}{g} - \frac{1}{2} \frac{25}{g^2} + \frac{1}{4} \frac{50}{g^3} - \frac{16}{128g^4} \dots$$

taking the positive, and then the negative, value of $\sqrt[3]{15}$, namely

$$\pm 3.873 \dots,$$

we obtain

$$x = 4.237 \dots \quad \text{or} \quad = -3.901 \dots;$$

whence

$$x = 1.18 \dots; \quad \text{or} \quad = -1.28 \dots,$$

nine terms of the series being taken, and the approximation being very slow.

The equation $x^3 - 3x^2 - 2x + 5 = 0$ is therefore, in this form, a very unfavourable example of solution by operative division, and has been dwelt upon for this reason. But all the roots can be quickly obtained by means of the simple transformation usually employed for removing the second term of an equation—putting $x = y + 1$ we have

$$y^3 - 5y + 1 = 0.$$

In this, 5 is easily the predominant coefficient; and the approximation is fairly rapid, two roots being obtained simultaneously from the form

$$y^2 + y^{-1} = 5.$$

Taking only five terms of the invert, we have

$$x = 1 + y = 3.1284 \dots \quad \text{and} \quad = -1.33005 \dots$$

Again, putting $y = \frac{1}{z}$, we have

$$z^3 - 5z^2 + 1 = 0, \quad \text{or} \quad z + z^{-2} = 5,$$

from five terms of the invert of which we obtain

$$x = 1 + \frac{1}{z} = 1.201642 \dots,$$

the three roots agreeing with those obtained by Horner's process. Similar artifices may be employed for many other equations. But the matter is beyond the scope of this paper; and enough has perhaps been written to suggest the general validity of the method.

(8) In conclusion of this part of the subject, it is important to note that in the above examples the subject of the invert itself, that is, the weight-function of the predominant coefficient, gives a rough indication of the position of the roots. Thus, in the last example, these weight-functions *alone*, without the following series, would give

$$x = 3.0, \quad x = 1.29 \dots \quad \text{and} \quad x = -1.29 \dots;$$

which are not very inexact localisations. The development of this and many other points in this connexion must be left to another paper.

In the Table at the end of this paper the values of a number of terms of $[\psi_1]^{-1}$, $[\psi_2]^{-1} \dots$ are given in order to save the trouble of calculating the coefficients.

24. *Linear Differential Equations treated by Operative Division.*—A brief note on this subject must suffice. If

$$[D^3 + p_1 D + p_2 D^2 \dots] y = [\phi] x$$

be a linear differential equation with constant coefficients,

$$p_1, \quad p_2, \quad p_3 \dots$$

we can invert the operation by dividing operatively D^0 , that is β , by it. The quotient applied to $[\phi]x$ is

$$y = [D^0 - p_1 D + (p_1^2 - p_2) D^2 - (p_1^3 - 2p_1 p_2 + p_3) D^3 \dots][\phi]x.$$

Or we may take the division by descending terms, beginning with the term D^n , when, if

$$[D^n + p_1 D^{n-1} + p_2 D^{n-2} \dots]y = [\phi]x$$

$$y = [D^{-n} - p_1 D^{-n-1} + (p_1^2 - p_2) D^{-n-2} \dots][\phi]x.$$

For example, let

$$y + a \frac{\partial y}{\partial x} = x.$$

Then

$$[D^0 + aD]y = x; \text{ and } y = [D^0 - aD + a^2 D^2 - a^3 D^3 \dots]x = x - a.$$

Also

$$[D + a^{-1} D^0]y = a^{-1}x;$$

and

$$y = [D^{-1} - a^{-1} D^{-2} + a^{-2} D^{-3} \dots](a^{-1}x) = a^{-1} \left[\frac{x^2}{2} - a^{-1} \frac{x^3}{3} + \dots \right]$$

$$= a e^{-\frac{x}{a}} + (x - a).$$

The two roots are interdependent, their operative ratio being

$$\frac{a}{e} e^{-\frac{\beta}{a}} + \beta.$$

(2) If the coefficients are integral functions of x , the same procedure is adopted. For example, let

$$[D^0 + xD]y = (n+1)x^n.$$

Then

$$D^0 + xD \quad D^0 \quad \left(D^0 - \frac{x}{2} D + \frac{x^2}{3} D^2 - \frac{x^3}{4} D^3 \dots \right)$$

$$\frac{D^0 + xD}{-xD}$$

$$-xD$$

$$-xD - \frac{1}{2}x^2 D^2$$

$$\frac{1}{2}x^2 D^2$$

$$\frac{1}{2}x^2 D^2 + \frac{1}{3}x^3 D^3$$

etc.

$$\text{Hence} \quad y = [D^0 - \frac{x}{2} D + \frac{x^2}{3} D^2 \dots] (n+1) x^n = x^n.$$

When the coefficients of D^0 , D , D^2 , . . . are functions of higher orders than the first, the exponents of D in each term of the quotient must be so chosen as if possible to ensure that the first term of each dividend shall not be repeated in each subtrahend—which is generally obtained by the aid of Leibnitz's theorem. For example (one form),

$$[D^0 + x^2 D]^{-1} = D^0 - \frac{x^2}{2x+1} D + \frac{x^4}{6(2x+1)} D^3 - R.$$

Of course, D^n here denotes operative involution.

25. *Conclusion.*—Time does not allow examples of functional equations to be given; but enough has been said to support the view that operative division affords a general and methodical way of dealing with linear equations. Reflection will suggest that this way is also the natural way. We do not, so to speak, attempt to capture the solution by artifice, but, setting aside the quantitative subjects, evert the original operation itself, step by step, in accordance with a fixed plan. It may often happen that the result of the artifice is more useful to us than the result of the general method; but this fact does not necessarily diminish the value of the latter. Operative division therefore affords a good preliminary example of the uses to which verb-functions may be put.

It may be noted in conclusion that the whole system of verb-functions depends on recognition of the fact that ϕ^0 does not equal numerical unity.

The writer's warm thanks are due to Professor Joly for the interest which he has taken in the matter, and for his kindness in reading this paper to the Royal Irish Academy. He is also indebted to Professor Carey, of the University of Liverpool, for help rendered; and to Mr. Walter Stott for first applying the general method to the solution of some particular equations; and for other assistance. It is due to the memory of the late Mr. R. W. H. T. Hudson to add that he was one of the first to accept the validity of some of the arguments used in this article.

TABLE.

1. If $x + a + bx^{-1} + cx^{-2} + dx^{-3} \dots = y$,

$$\begin{aligned} x = y - a - by^{-1} - (c + ab)y^{-2} - (d + 2ac + b^2 + a^2b)y^{-3} - (e + 3ad + 3bc + 3a^2c + 3ab^2 + a^2b)y^{-4} \\ - (f + 4ae + 4bd + 2c^2 + 6a^2d + 12abc + 2b^3 + 4a^2c + 6a^2b^2 + a^4b)y^{-5} - (g + 5af + 5be + 5ad + 10a^2e \\ + 10ac^2 + 20abd + 10b^2c + 10a^2d + 30a^2bc + 10ab^3 + 5a^4c + 10a^3b^2 + a^5b)y^{-6} - \dots \end{aligned}$$

2. If $x^2 + ax + b + cx^{-1} + dx^{-2} \dots = y$,

$$\begin{aligned} x = y^{\frac{1}{2}} - \frac{1}{2}a - \left(\frac{1}{2}b - \frac{1}{2^3}a^2\right)y^{-\frac{1}{2}} - \frac{1}{2}cy^{-\frac{3}{2}} - \left(\frac{1}{2}d + \frac{1}{2^2}ac + \frac{1}{2^3}b^2 - \frac{1}{2^4}a^2b + \frac{1}{2^5}a^4\right)y^{-\frac{5}{2}} - \left(\frac{1}{2}e + \frac{1}{2}ad + \frac{1}{2}bc\right)y^{-\frac{7}{2}} \\ - \left(\frac{1}{2}f + \frac{3}{2^2}ae + \frac{3}{2^2}bd + \frac{3}{2^3}c^2 + \frac{3}{2^4}a^2d + \frac{3}{2^4}abe + \frac{1}{2^4}b^3 - \frac{1}{2^5}a^2c - \frac{3}{2^5}a^2b^2 + \frac{3}{2^6}a^4b - \frac{1}{2^{10}}a^6\right)y^{-\frac{9}{2}} \\ - \left(\frac{1}{2}g + af + be + cd + \frac{1}{2}ac^2 + \frac{1}{2}ae^2 + abd + \frac{1}{2}b^2c\right)y^{-\frac{11}{2}} - \dots \end{aligned}$$

3. If $x^3 + ax^2 + bx + c + dx^{-1} + ex^{-2} \dots = y$,

$$x = y^{\frac{1}{3}} - \frac{1}{3}a - \left(\frac{1}{3}b - \frac{1}{3^3}a^2\right)y^{-\frac{1}{3}} - \left(\frac{1}{3}c - \frac{1}{3^2}ab + \frac{2}{3^4}a^3\right)y^{-\frac{2}{3}} - \frac{1}{3}dy^{-\frac{4}{3}}$$

$$\begin{aligned}
 & -\left(\frac{1}{3}f + \frac{1}{3}ae + \frac{1}{3}hd + \frac{1}{3}e^3 + \frac{1}{3}a^3d - \frac{1}{3}a^2bc - \frac{1}{3}a^3c + \frac{1}{3}a^3b^2 - \frac{1}{3}a^3b + \frac{1}{3}a^3\right)y^{-\frac{1}{2}} \\
 & -\left(\frac{1}{3}g + \frac{1}{3}af + \frac{1}{3}be + \frac{1}{3}cd\right)y^{-\frac{3}{2}} + \dots
 \end{aligned}$$

4. If $x^4 + ax^3 + bx^2 + cx + d + ex^1 + fx^2 \dots = y$,

$$\begin{aligned}
 x = y^{\frac{1}{4}} - \frac{1}{4}a - \left(\frac{1}{4}b - \frac{6}{4^3}a^2\right)y^{-\frac{1}{4}} - \left(\frac{1}{4}c - \frac{2}{4^3}ab + \frac{2}{4^3}a^2\right)y^{-\frac{3}{4}} - \left(\frac{1}{4}d - \frac{1}{4^3}ao - \frac{2}{4^3}b^2 + \frac{10}{4^4}a^2b - \frac{30}{4^5}a^3\right)y^{-\frac{5}{4}} - \frac{1}{4}ey^{-\frac{7}{4}} \\
 - \left(\frac{1}{4}f + \frac{1}{4^3}ao + \frac{1}{4^3}bd + \frac{2}{4^3}c^2 - \frac{6}{4^4}a^2d - \frac{3}{4^3}abc - \frac{2}{4^4}b^2 + \frac{14}{4^5}a^2c + \frac{21}{4^6}a^2b^2 - \frac{154}{4^7}a^4b + \frac{77}{4^8}a^5\right)y^{-\frac{9}{4}} - \dots
 \end{aligned}$$

5. If $x^5 + ax^4 + bx^3 + cx^2 + dx + e + fx^3 + gx^2 \dots = y$,

$$\begin{aligned}
 x = y^{\frac{1}{5}} - \frac{1}{5}a - \left(\frac{1}{5}b - \frac{2}{5^3}a^2\right)y^{-\frac{1}{5}} - \left(\frac{1}{5}c - \frac{3}{5^3}ab + \frac{4}{5^3}a^2\right)y^{-\frac{3}{5}} - \left(\frac{1}{5}d - \frac{2}{5^3}ao - \frac{1}{5^3}b^2 + \frac{7}{5^4}a^2b - \frac{7}{5^4}a^4\right)y^{-\frac{5}{5}} \\
 - \left(\frac{1}{5}e - \frac{1}{5^3}ad - \frac{1}{5^3}bc + \frac{3}{5^3}a^2c + \frac{3}{5^3}ab^2 - \frac{11}{5^4}a^2b + \frac{44}{5^6}a^5\right)y^{-\frac{7}{5}} - \frac{1}{5}fy^{-\frac{9}{5}} - \dots
 \end{aligned}$$

Note added in Press.—The following procedure enables us to avoid incommensurable subjects. In the selected form of the original equation separate the term free of x into two terms $j + k$; j is now made the coefficient of x^2 on the left of the equation, and \sqrt{k} , that is, k , is made the new subject. For example, $x^2 - 2x - 5 = 0$ may be written $x^2 - 2x + 3 = 8$; and $\sqrt[3]{8}$ is commensurable. The same roots are given by aid of the Table, but care must be taken not to retard the convergency by this process, which, however, helps us in other ways.

From the solution of many numerical equations it appears that a real subject always gives the greatest or the least root, or both. Two more may often be obtained from the equation in x . The evaluation of inverts with unreal subjects cannot be discussed in these very brief notes on a large theme.



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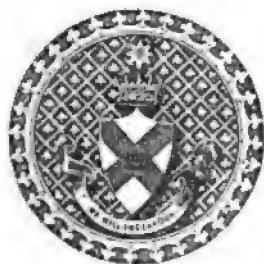
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**SECTION B.—BIOLOGICAL, GEOLOGICAL, AND
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ERRATA.

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Page 94, lines 5, 6, *for* "Fishergate" *read* "Fisherstreet".

„ „ line 9 from bottom, "Pterinopecten papyraceus" should be transferred to the list which ends on previous line.

„ „ „ 4 from bottom, *for* "Gragans" *read* "Gragans".

„ 96, lines 4, 23, *for* "Fishergate" *read* "Fisherstreet".

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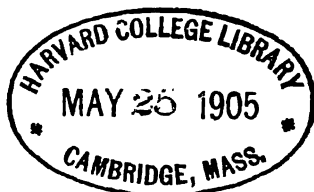
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PAPERS READ BEFORE THE ACADEMY

I.

ON THE DISCOVERY OF HYÆNA, MAMMOTH, AND OTHER EXTINCT MAMMALS IN A CARBONIFEROUS CAVERN IN COUNTY CORK.

By R. J. USSHER.

[Read NOVEMBER 14. Ordered for Publication NOVEMBER 16.
Published NOVEMBER 30, 1904.]

THE instances in Ireland in which caves have been found to contain extinct mammalia have been few, and until the last four years far between. Our most important bone-cave has hitherto been that of Shandon in County Waterford, which, in 1859 and subsequent years, was discovered to contain Bear, Wolf, Mammoth, Horse, Reindeer, and Red Deer in a breccia beneath stalagmite.¹

This led me, at the suggestion of Prof. Leith Adams, to make searches in a neighbouring district, which resulted in the discovery in 1879 of a small bone-cave at Ballynamindra, with a series of strata of very different ages, from the deeply-buried stalagmite floor and its debris (which yielded Bear, Reindeer, and Irish Elk) to the Neolithic surface-stratum, full of kitchen-midden relics. The special interest of this cave consisted in its comprising, within a small area

¹ Proc. R. Dublin Soc., 22nd June, 1859. Natural History Review, October, 1859. Trans. R. I. Acad., vol. xxvi. (June, 1876).

and in the same deposit, an assemblage of broken bones of Irish Elk, with charcoal and other evidences of man's former presence. The report upon that cave may, however, have to be reviewed in the light of recent discoveries in other counties.¹

In 1898 Mr. Thomas Plunkett described to the British Association the finding in a County Fermanagh cave of a Bear's skull, now in the National Museum. It was among debris that appeared to have been washed out of a higher gallery that opened above the spot where it was discovered.² With the first year of the present century, upon the initiative of Dr. Scharff, sustained cave-exploration work was organized, and the funds were provided for three seasons by grants from the Royal Irish Academy and the British Association. During the four summers of 1901 to 1904 a series of caves with post-glacial deposits have been dug out in the Counties of Sligo³ and Clare,⁴ all of which contained human bones and implements of various periods in their upper strata, while their deeper beds, and sometimes even the surface-stratum, yielded numerous remains of Bear and Reindeer, and (in County Clare) many of the Irish Elk. The interesting addition of the Arctic Lemming from both counties has rewarded the scrutiny of Dr. Scharff, who has also announced the Wild Cat from more than one County Clare cave. Bears as well as Reindeer appear to have survived until the human occupation, and to have been used by man. Among the varied implements found in these caverns may specially be mentioned delicately-pointed bonepins and piercing instruments, and the canine teeth of Bear, Dog, and Boar, which had been fashioned into rude implements or amulets, also finely-chipped scrapers of flint, and pins of bronze. An interesting glimpse at the life of the cave-dwellers has been afforded by the discovery of a stone oil-lamp, formed out of a hollowed sandstone boulder. The limited fauna of the Sligo and Clare caves suggested that researches should be made further south, as those counties had been subjected to very rigorous glaciation. Accordingly, I made some visits to caves in County Limerick, and in the north of Cork near Doneraile.

While visiting that district, I was taken last May by Colonel J.

¹ Proc. R. I. Acad., 2nd ser., vol. ii., No. 3, 1881 (abstract). Sci. Trans. R. Dublin Soc., vol. i. (series ii.), April, 1881 (full report).

² Brit. Assoc. Report, 1898, p. 885.

³ Trans. R. I. Acad., vol. xxxii., Sect. B., part iv., September, 1903.

⁴ Report on Caves in Co. Clare, in preparation for the Royal Irish Academy.

Grove White to a cave mentioned to me by Lord Castletown on his estate near Castle Pook. Entering from an old quarry by a low tunnel, we soon found ourselves lost in a labyrinth of galleries; and while seeking our way, my attendant, John Power, came upon a bone, partially exposed, which I recognized to be a Mammoth's scapula. It had been gnawed round the edges, and bore indentations of huge teeth, while a piece of it broken off in this process was found several feet away in the sand, as well as a Reindeer's shin-bone.

Being anxious to conclude my work in County Clare, three months were then occupied in the excavation of three caves there, and it was not until the 1st of September that I was able to commence the exploration of the new cave in County Cork, where I remained until the 1st of November.

This vast cavern justifies the name I propose to give it of the Mammoth Cave, both from its great extent and from the fact that in seven different galleries remains of Mammoth were found.

There are halls and chambers of great size; but the characteristic feature of the system is a series of deep galleries that run parallel to each other from N.E. to S.W., and are so close as to be confluent in places, the dividing walls having occasionally collapsed. The great depth of these galleries denotes a very prolonged wearing down by water; and they exhibit as landmarks of their history two and even three stalagmite floors, the lower ones formed of the concreted debris where the upper floor had broken down after its supporting sand-bed had been washed away.

In every part of this extensive cave-system we find a floor of crystalline stalagmite which sparkles in places like barley-sugar when it is broken. This is usually the uppermost deposit, and where it is undisturbed it reposes on a deep stratum of triturated Old Red Sandstone. The presence of this material is easily to be accounted for, as the sandstone formation, of which the neighbouring Ballyhoura Mountains are composed, approaches the cave about a mile and a half to the north; from those mountains flow all the streams of the district, spreading the red, sandy material over the limestone tract.

It is an elevated district, the cave itself being about 300 feet above the sea-level; but the cavity, with its ramifications, was evidently formed by the underground waters that drained from the upland valley upon which Castle Pook looks down from a neighbouring knoll; its square mass of ruined masonry supplies a prominent land-mark there, and it gives its name to the townland.

Violent floods must have drained through the Mammoth Cave, for in several places the sand-bed had been washed away from beneath the stalagmite, often leading to the break-down of the latter; and where this had not taken place, bones, such as a Bear's jaw, were found adhering to the lower side of the stalagmite.

In other places, as in the Elephant Hall, the stalagmite was unbroken; and on its removal the fragments of a more ancient floor were found beneath it in the sand, together with animal remains. A large mass of stalagmite of this sort lay over a skull of Deer, which again rested on the skull of a Bear.

The stones found in the sand-deposit of this cave are limestone fragments, and there is a general absence of those water-worn or ice-worn pebbles and boulders with which I was so familiar in the caves of Sligo and Clare. Above the stalagmite, it is true, there are earth-falls intruded here and there from above, through fissures. In these are many worn stones of the paving-stone type; but I have failed to observe them below the stalagmite. The animal remains, round which centres the interest of this cave, are in extraordinary profusion, and often admirably preserved; they are found in all directions, even in the most remote and narrow galleries.

I am not referring now to the fox-earth bones which are generally found on the surface of the stalagmite, and which may be considered quite recent, but to the great harvest of fossil bones which we have found beneath the stalagmite floor, often embedded in it, or in the brecciated sand that adhered to its lower side. These had been occasionally washed out of their position into lower galleries, where they lay loose on the sand. Sometimes a large bone was partially cemented into the stalagmite, or sand breccia, and partially exposed; and elsewhere there were bones and fragments of tusks among limestone rubble, or on shelves of the walls where they had been left high and dry.

The two animals most numerously represented are Bear and Reindeer; and here I may remark that the widespread prevalence of these creatures has been proved most convincingly by the caves of Ireland, none of which, if they contain extinct animals at all, seem to be without remains of Bear or Reindeer, or of both. The Bears appear to have inhabited the galleries and chambers of the Mammoth Cave, where they brought in their prey, which included such large game as Elephants and Irish Elks, whose bones were gnawed and fractured; even the long bones of the adult Mammoth had lost their extremities, and its tusks had been broken into small fragments; while the remains

of Mammoth calves were found in more than one place, and a very interesting mandible of one of these exhibits its first teeth.

The Wolf, too, seems to be represented, for we found a canine radius of large size in the stalagmite.

But we were yet to discover a more able bone-crusher than the Bear or the Wolf; for a portion of a maxilla with the two back molars which turned up in the sand has been recognized by Dr. Scharff as that of the Spotted Hyæna, an animal new to the Irish list, and which connects our Pleistocene fauna with that of more southern countries.

Possibly when the bones are determined, other animals may be found to be represented, some of the cervine remains being remarkable.

The question naturally arises whether or not this is a pre-glacial cave; its long history needs to be elucidated by all the light that can be thrown on it, so that too much care and labour cannot be expended in working out this extensive cavern. It may prove to be the most important bone-cave yet discovered in Ireland, not only from the abundance and variety of extinct animals that it contains, but from the fact that it opens up a chapter in the Pleistocene history of the country of which we had previously very scanty records, except such limited evidence as was afforded by the Shandon cave.

Like the latter, the Mammoth cave has as yet yielded no relics of early Man; but it would be rash to assume that such may not be discovered there by a thorough examination of its contents.

To do this properly the materials should be barrowed or carried out and searched by daylight—a method that at present seems only partially possible, owing to the tortuous and irregular form of the passages, encumbered by masses of rock. We have already cleared out the entrance gallery, enlarging it by blasting, and Lord Castletown has placed a strong door there; we have made preliminary excavations in parts that have been named the Hyæna Chamber, the Elephant Hall, the Abyss, and Fairy-land.

These searches have resulted in the procuring of fifteen baskets of fossil bones, though some of the time, during our two months' stay, was occupied in making a survey and sections of the cave—a work which, it is hoped, may be continued towards completion next year.

Until the 22nd October, I found this the driest cave I had ever worked; but after that date a heavy rain-fall caused the whole place to become so wet as to be dangerous to health.

II.

CHEMICAL CHANGES ATTENDING THE AEROBIC BACTERIAL FERMENTATION OF SIMPLE ORGANIC SUBSTANCES. PART I.—UREA, ASPARAGINE, ALBUMOSE, AND ROCHELLE SALT.

(PLATES I.—II.)

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THE relation of bacteria to the chemical changes which they bring about in the substances they feed upon and come in contact with, admittedly forms a very large field for inquiry, and one which cannot be said to have been made the subject of accurate investigation to any large extent—certainly not to the extent to which the morphology of the organisms concerned has been studied.

It is not necessary to emphasize the correctness of this statement. The chemical changes which can be induced by bacteria must be very numerous, seeing that the physiological processes of respiration, digestion, assimilation, secretion, and excretion may all be set up during their activity.

These changes must, moreover, be profoundly modified in solutions of similar substances, fermented by similar organisms, when the supply of atmospheric oxygen is varied.

Under the ordinary methods of cultivating bacteria, it is impossible to assume that an excess of oxygen can be equally maintained throughout the mass of the solution, owing to the rapid rate of fermentation, and to the sparing solubility of oxygen in water.

It is obvious, therefore, that under such conditions the liquid medium must be regarded from the chemical point of view as constituting varying chemical systems from the surface exposed to the air downwards, and that, if it be desired to study chemical changes under rigid conditions, the method of experimenting must be materially modified.

It is not easy to devise modifications which shall at once meet with

all difficulties in the direction here indicated, to preserve without loss the products of the chemical changes, and at the same time to ensure the purity of the organisms setting up the changes. But, besides this, the field of inquiry is so extensive that it would not be wise, in the present state of our knowledge, to attempt to do so. There are a number of problems in the chemistry of bacterial fermentation which require investigation in connexion with the question of the pollution and purification of water, and which may be regarded as necessary introductory studies to the larger problems above referred to.

The author desires to describe in this communication a few of such studies. His method of experimenting has been to allow very dilute solutions of simple organic substances of known strength to ferment under aërobic conditions, and to determine from time to time the products of fermentation. The strength of the solutions has been carefully determined, so that the amount of oxygen required in the process of fermentation shall not exceed its solubility in water. The physiological processes which can be conveniently studied by this method are those of respiration and digestion (by enzymic action).

The Fermentation of Urea.

Urea has been one of the substances selected by the author for investigation on account of its extremely simple constitution and chemical characters, and also on account of the ease with which it is converted into ammonium carbonate by certain organisms.

The micro-coccus ureæ, as is well known, possesses this power to a marked degree; and Miquel has shown that a number of other organisms also possess it. The change is brought about by the enzyme urase. This change, therefore, comes under the physiological process of digestion.

It is known that the micro-coccus ureæ can be cultivated in solutions of urea containing phosphates and the other necessary salts. The urea being then the only nutrient organic substance present, must undergo changes in connexion with the physiological processes of respiration and assimilation as well as with that of digestion. By the method of investigation employed by the author, the process of respiration and digestion can easily be examined when such simple substances as urea are the subject of investigation; and in the experiments to be described the author proposes to confine himself to the changes possible under these two processes. He hopes to deal with the other processes in a future communication.

Method of Experimenting.

The method of experimenting, and the special apparatus which have been employed for the experiments, require but brief reference, as both have been fully described in a memoir on "The Course and Nature of Fermentative Changes in Natural and Polluted Waters," published in the *Trans. Royal Dublin Society*, vol. v., ser. 2, 1895.

Solutions of urea and of the necessary inorganic salts were made up to a convenient strength with fresh distilled water. The dissolved gases, inorganic and organic nitrogen, were determined both at the commencement and at the conclusion of an experiment.

If the initial or earlier steps only of the fermentation were required to be studied, the solutions were preserved in bottles completely filled and carefully stoppered with well-ground glass stoppers, the dissolved oxygen in the solution providing a sufficient quantity of that gas for the purpose. If, however, it were desired to study the course of fermentation more completely, then it was found necessary to leave air in the bottle sufficient to provide an adequate supply of oxygen.

It was possible to make the solutions sufficiently dilute to ensure that the dissolved oxygen should be more than sufficient for the complete fermentation of the organic substance it contained; the quantities, however, of substance fermented, and of products formed, would then necessarily be very small—undesirably so for many purposes.

For the first-mentioned object a bottle of ordinary form is employed; for the second, one of special form is necessary. I have found Chancel's form of glass flask for taking the specific gravities of gases very convenient for the purpose. It consists of a flask, the neck of which is ground and fitted with a hollow glass stopper. A side tubule is fused on the outside of the neck; and a hole is bored through the side of the stopper to correspond with it. A tube is also fused on the inside of the stopper over the hole; and by its means, in one position of the stopper, the outer tubule may be placed in direct communication with the interior and bottom portion of the flask. The outer end of the stopper is continued into a glass tube furnished with a stopcock. With this form of flask, the gases in the air-space, at the conclusion of the experiment, may be easily displaced by means of paraffin oil, and transferred to the special gas analysis apparatus for measurement and analysis (*loc. cit.*, p. 546). The solution may then be displaced and transferred to the laboratory flask of the same apparatus, and the dissolved gases in it boiled out and analysed.

The capacities of the flasks were very carefully determined. They varied from about 540 c.c. to about 600 c.c.; and usually the volume of solution employed was about 400 c.c. for each flask.

Both bottles and flasks were immersed in distilled water, neck downwards, in large glass vessels, which were themselves covered with glass plates, and kept in the dark at an equable temperature.

Composition of Solution employed.

The solutions employed have all been made of the same strength, viz., 0.225 grm. urea, and 0.1 grm. each of potassium phosphate, potassium chloride, and sodium carbonate per litre. This quantity of urea is equivalent to 83.7 c.c. carbon dioxide, measured at 0° and 760 mm., and 0.105 grm. of nitrogen. Solutions of this strength have been found very convenient, because the fermentations have not been sufficiently rapid in them to set up anaërobic conditions in the lower layers of liquid when not exposed to a temperature higher than 21° C.

Methods of Determining the Organic and the Inorganic Nitrogen.

For the determination of the organic and inorganic nitrogen, as dilute solutions as possible were in all cases employed, the strength taken being just sufficient to give distinctly the necessary colour reactions.

The nitrogen as ammonia has been determined by direct nesslerising.

Nitrogen in the form of nitrite has been determined by the metaphenylene diamine method.

In all cases the total inorganic nitrogen has also been determined by the zinc-copper couple, and nitrogen as nitrate sought for; but no distinct evidence has been found of its presence in any of the solutions in which the fermentation was not allowed to proceed to completion.

The organic nitrogen, together with ammonia, if present, has been determined by evaporation and ignition with small quantities of concentrated sulphuric acid, not exceeding 1 to 2 c.c. The acid solution was rendered alkaline, and the ammonia distilled off, as in Kjeldhal's process.

The Organisms effecting the Fermentations.

In most of the experiments to be described, care has been taken to avoid commencing with organisms in a state of activity, because their enzymic action would mask the respiratory changes which it was also desired to study.

Consequently the germs present in the distilled water, and other substances employed in making up the solutions, have been relied upon for setting up fermentation.

In the course of three months or so, the solutions become slightly turbid; and the turbidity becomes more distinct a few days later, and remains until the fermentation is complete.

TABLE I.

Analyses giving the oxygen consumed, and the products formed, by the respiratory and enzymic changes exerted by the organisms during the earliest stages of their development and activity in solutions of urea.

The gases are stated in c.c. at N. T. P., and the organic nitrogen and inorganic nitrogen compounds in grms., per litre :—

| DISSOLVED GASES. | | | | NITROGEN AS | | |
|------------------|-----------------|----------------|----------------|-------------|-----------------|-------------------------------|
| No. | CO ₂ | O ₂ | N ₂ | Organic | NH ₃ | N ₂ O ₃ |
| 1 | 19·63 | 6·99 | 13·74 | 0·105 | 0·0001 | 0·0 |
| 2 | 20·53 | 6·42 | 13·56 | 0·105 | 0·0003 | trace |
| 3 | 23·19 | 3·05 | 13·50 | — | 0·0032 | 0·00148 |
| 4 | 29·88 | 0·01 | 13·47 | — | 0·0108 | 0·00247 |
| 5 | 42·22 | 0·00 | 13·40 | 0·077 | 0·026 | 0·00244 |

No. 1. Analysis of solution at commencement of experiment.

No. 2. Analysis of solution five months later.

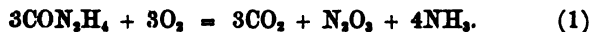
No. 3. Analysis of a portion of solution from No. 2 after allowing it to ferment eight days longer.

No. 4. Analysis of a portion of the solution from No. 3 after allowing it to ferment three days longer.

No. 5. Analysis of another portion of the original solution after keeping for five months.

On comparing the results of No. 3 with those of No. 1, it appears that 0·00148 grm. of nitrogen as nitrous anhydride, 0·0031 grm. of nitrogen as ammonia, and 3·56 c.c. of carbon dioxide were formed, while 3·94 cc. oxygen were consumed.

The proportion of nitrogen as nitrous anhydride to that as ammonia is so nearly as 1 : 2 that it seems fair to assume that this first step of fermentation consisted almost entirely of a direct oxidation according to the equation :—



It will be seen from this equation that the volume of carbon dioxide formed is equal to that of the oxygen consumed, one-half of the latter being taken up to form nitrous anhydride, and one-half to form carbon dioxide. The analysis of No. 3 shows that the volume of carbon dioxide formed was very nearly equal to the volume of oxygen consumed.

Assuming this equation to correctly indicate the process of oxidation, we may differentiate the products due to respiratory changes from those due to enzymic action. Thus, the volume of oxygen equivalent to the nitrogen as nitrous anhydride may be obtained by calculation; then twice that volume equals the carbon dioxide formed at the same time. The remaining carbon dioxide may then be taken as due to enzymic action; and the nitrogen as ammonia equivalent to it may be calculated according to the equation :—

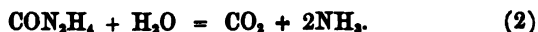


TABLE II.,

Showing the percentages of the products, recorded in Table I., which were due to respiratory changes, and of those which were due to enzymic change, the total carbon dioxide and inorganic nitrogen compounds being taken each as 100.

| Results of Respiratory Changes. | | | | | Enzymic Changes. | | Oxygen absorbed by other Physiological Processes. |
|---------------------------------|-----------------|-----------------|-------------------------------|-------------------------|------------------|-----------------|---|
| No. | CO ₂ | NH ₃ | N ₂ O ₃ | O ₂ absorbed | CO ₂ | NH ₃ | : |
| 3 | 100.0 | 67.7 | 32.3 | 89.9 | 0.0 | 0.0 | 10.15 |
| 4 | 57.7 | 37.5 | 18.8 | 84.6 | 42.3 | 41.0 | 15.45 |
| 5 | 25.9 | 17.2 | 8.6 | 83.5 | 74.1 | 73.8 | 16.54 |

It will be observed that the division of the fermentative products between the processes of respiratory and enzymic changes in accordance with the above equations (1 and 2) is shown to be justified by the fact that the inorganic products are nearly all accounted for.

The respiratory changes were similar in degree in the two experiments 4 and 5; but the enzymic changes were very different. This was no doubt due to the solution in the latter experiment being kept for some time after aerobic conditions had ceased.

The Chemistry of more Advanced Stages of Fermentative Change.

The next series of experiments were carried out with the object of studying more advanced stages of fermentation; and with this object in view known volumes of air were left in the flasks above described to act as reservoirs of oxygen.

The experiments were commenced on the same day as the foregoing and with portions of the same solution.

TABLE III.

ANALYSES GIVING THE RESULTS OF MORE ADVANCED STEPS IN THE FERMENTATION OF UREA UNDER COMPLETE
AEROBIC CONDITIONS.

| No. | | Atmosphere of the Flasks. | | | | Dissolved Gases. | | | | Combined Nitrogen. | | | | The Composition of the Gases in the Air-spaces at Commencement. | | | |
|-----|------------------------------|---------------------------|---------------------|---------------------|----------------------|---------------------|---------------------|-----------------|-------------------------|---------------------------------------|-----|----------------|------------------|---|--|--|--|
| | | CO ₂ c.c. | O ₂ c.c. | N ₂ c.c. | CO ₂ c.c. | O ₂ c.c. | N ₂ c.c. | Organic grs. | NH ₃ grs. | N ₂ O ₃ grs. | No. | Oxygen c.c. | Nitrogen c.c. | | | | |
| *6 | 5 months after commencement, | 0.00 | 52.36 | 304.23 | 55.17 | 2.20 | 13.35 | 0.590 | 0.360 | 0.1145 | 6 | 80.20 | 302.53 | | | | |
| 7 | " " | 0.71 | 25.63 | 269.26 | 84.17 | 1.34 | 13.26 | 0.140 | 0.675 | 0.1850 | 7 | 71.18 | 268.52 | | | | |
| 8 | " " | 1.91 | 25.37 | 347.94 | 86.30 | 1.41 | 13.46 | 0.105 | 0.500 | 0.2590 | 8 | 92.31 | 348.19 | | | | |
| 9 | " " | 5.84 | 31.40 | 412.55 | 76.12 | 2.00 | 13.27 | 0.125 | 0.500 | 0.2960 | 9 | 109.25 | 412.03 | | | | |

* NOTE.—For the composition of the solution at the commencement of this series of experiments, see No. 1, Table I.

The changes in composition of the gases in the atmosphere of the flasks, and in the solutions, indicated in the preceding Table of Analyses, may be summarized as follows :—

| No. | CO ₂ | O ₂ | N ₂ |
|-----|-----------------|----------------|----------------|
| 6 | + 35.54 | - 32.63 | + 1.31 |
| 7 | + 65.25 | - 51.20 | + 0.26 |
| 8 | + 68.58 | - 72.52 | - 0.53 |
| 9 | + 62.33 | - 82.84 | + 0.05 |

TABLE IV.,

Stating the results due to respiratory and enzymic changes respectively, in percentages, as in Table II.

| Results of Respiratory Changes. | | | | | Enzymic Changes. | | Oxygen absorbed by other Physiological Processes. |
|------------------------------------|-----------------|-----------------|-------------------------------|----------------|---------------------|-----------------|--|
| No. | CO ₂ | NH ₃ | N ₂ O ₅ | O ₂ | CO ₂ | NH ₃ | |
| 6 | 77.0 | 48.5 | 24.3 | 83.9 | 23.0 | 21.6 | 16.1 |
| 7 | 67.8 | 43.1 | 21.5 | 86.5 | 32.2 | 30.7 | 13.5 |

The figures in the foregoing Tables again prove that the inorganic products are nearly all accounted for, when distributed in accordance with equations 1 and 2 ; and they afford additional evidence that the principle upon which the division has been made is well founded.

It is evident from the analytical results recorded for experiment 6, Table IV., that the urea originally present in solution had by no means undergone complete metabolic change.

Of the products formed in this experiment, 77 per cent. of the total carbon dioxide was the result of the respiratory change, and 23 per cent. the result of enzymic action ; while, of the total inorganic nitrogen products, 72.81 per cent. was the result of respiratory change, and 21.58 the result of enzymic action, leaving 5.6 per cent. of those products unaccounted for.

Of the oxygen consumed, 83.91 per cent. was taken up by the respiratory changes, and 16.09 per cent. by other physiological processes not examined.

On comparing together the analytical results recorded for the next three experiments, Nos. 7, 8, and 9, Table III., it is evident that No. 7 marks the point when the change of all the urea originally present had just been completed; while Nos. 8 and 9 mark well-advanced steps in true nitrification of the ammonia.

In the case of No. 7, 67.8 per cent. and 64.6 per cent., respectively, of the total carbon dioxide and inorganic nitrogen products were the result of respiratory change; and 32.2 per cent. and 30.7 per cent., respectively, of the same products were the result of enzymic action, leaving, in the case of the latter products, 4.7 nitrogen as ammonia unaccounted for.

Of the oxygen consumed, 86.5 per cent. was taken up by the respiratory changes, and 13.5 per cent. by other physiological processes not examined.

Although experiment 7 illustrates the complete fermentation of the urea originally present, the total volume of carbon dioxide formed only accounts for 77.96 per cent. of the carbon which the urea originally contained; and the total inorganic nitrogen products account for only 81.9 per cent. of the nitrogen originally present in the same. It may therefore be assumed that the balance of carbon, nitrogen, and atmospheric oxygen—viz., 22.04 per cent., 18.1 per cent., and 13.5 per cent., respectively—were taken up by other physiological processes.

Experiments with Urea and Rochelle Salt.

The following experiments confirm, in an interesting way, the fact borne out by experiments 1, 2, and 3, Table I., viz., that the enzymic action was not exerted by the organisms upon urea during the earliest stages of their development.

These experiments were made with a solution, in distilled water, of urea and inorganic salts of similar strength as the preceding solutions, but containing in addition 0.141 grm. per litre of Rochelle salt, a quantity equivalent to 44.64 c.c. of carbon dioxide. This latter substance was selected as being a very suitable organic nutrient for the organisms capable of hydrolizing urea (see Jaksch, *Zeitschr. f. phys. Chem.* 1881).

TABLE V.

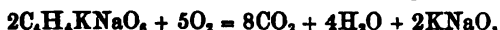
Analyses giving the total atmospheric oxygen consumed, and the products formed, by the respiratory and enzymic changes exerted by the organisms during the earliest stages of their development and activity in solutions of urea and Rochelle salt.

| No. | DATE. | DISSOLVED GASES. | | | NITROGEN AS |
|-----|-----------------------------------|----------------------|---------------------|---------------------|----------------------|
| | | CO ₂ c.c. | O ₂ c.c. | N ₂ c.c. | NH ₃ grs. |
| 10 | At commencement, . . | 19·60 | 5·34 | 11·25 | 0·0002 |
| 11 | Six days later, | 32·04 | 0·19 | 10·69 | 0·0003 |
| 12 | Nine days later, . . . | 32·65 | 0·00 | 10·79 | 0·0007 |
| 13 | Twelve months later, . . | 33·38 | 0·00 | 11·05 | 0·0009 |
| 14 | Seven days later, . . . | 70·25 | 4·74 | 13·31 | 0·0220 |
| | Atmosphere of flask in No. 14— | | | | |
| | At commencement, . | 0·00 | 160·84 | 606·34 | |
| | At conclusion, . . | 0·00 | 138·09 | 601·88 | |

From the results recorded in the above Table, it will be noticed that one of the most marked influences of the Rochelle salt is to set up a very rapid fermentation. It will also be noticed that in No. 11, although nearly all of the oxygen had been consumed, only a minute quantity of ammonia had been formed. After three days' longer fermentation in another portion of the solution, No. 12, a small quantity was formed; but this seems to have been the limit for the stage of development which the very small quantity of dissolved oxygen originally present allowed; since, when a third portion of the solution (11) was kept for nearly eleven months, the amount of ammonia found in it was but little more than that in No. 12.

But when a larger supply of atmospheric oxygen was provided, as in experiment 14, more advanced stages of fermentation very rapidly set in; and in seven days from the commencement of the experiment about one-fifth of the urea originally present had been hydrolysed into ammonium carbonate.

We can distinguish, with close approximation, between the products due to enzymic action and those due to respiratory change thus: assuming that the 0.022 grm. of nitrogen as ammonia was wholly the result of hydrolysis of urea, its equivalent of carbon dioxide is 17.54 c.c. This leaves a balance of 33.11 c.c. of carbon dioxide as due to respiratory change exerted upon the Rochelle salt. Assuming the oxidation to have taken place according to the equation—



the volume of oxygen consumed is to the volume of carbon dioxide formed as 5 : 8. That is, the balance of 33.11 c.c. of carbon dioxide should be equivalent to 20.7 c.c. of oxygen. The analysis shows a consumption of 23.1 c.c. of that gas.

We are therefore warranted in assuming that the respiratory changes were practically confined to the Rochelle salt, and the enzymic action to the urea. It may then be gathered from the analytical results that 74.17 per cent. of the carbon in the former substance was converted into carbon dioxide, and that at the same time 20.96 per cent. of the latter substance suffered hydrolysis.

Direct quantitative evidence is also afforded by these results, showing that the hydrolysis of urea during fermentation of the more favourable nutrient substance, Rochelle salt, is entirely due to enzymic action, and not to any other physiological process.

A further feature of interest exhibited by the results recorded in Table 7 is the evidence which the figures for the dissolved atmospheric nitrogen afford of the "fixation" of that gas during the fermentation. The different values obtained before and after fermentation are all, with the exception of No. 13, decidedly too large to ascribe to experimental errors.

Conclusion.

1. The organisms capable of initiating and effecting the hydrolysis of urea appear to exert that change entirely by enzymic action.

2. When the conditions of fermentation are such that urea is subject to the physiological process of respiration—in other words, when urea is the sole nutrient organic substance present—it undergoes only partial hydrolysis, the greater part of it undergoing a process of oxidation; thus:—



the result of the respiratory or energetic metabolic requirements of the organisms.

3. Of the proportions of the urea which suffered respiratory and enzymic changes in an experiment, in which the urea had undergone complete metabolic change, about two-thirds was completely oxidised, according to the above equation, and one-third was converted into ammonium carbonate by hydrolysis.

4. Small quantities of oxygen are also taken up by other physiological processes not yet examined.

5. Products of hydrolytic action have not been observed at the earliest stages of the development of the organisms.

6. When the urea was associated with such an organic compound as Rochelle salt, it apparently suffered no change until enzymic action set in, and was apparently not affected by other physiological changes, these latter being confined to the Rochelle salt, and also to the dissolved atmospheric nitrogen.

7. Decided quantities both of the carbon and nitrogen of the urea fermented, and of the atmospheric oxygen consumed, have been noticed as having been taken up, no doubt, by constructive and other physiological processes; but these have not yet been completely examined.

The Fermentation of Asparagine.

Asparagine is a substance of well-defined constitution, and easily undergoes enzymic change into aspartic acid and ammonia; and it has for these reasons been included amongst the substances for study in this investigation.

The experiments with this substance have been conducted in a precisely similar manner to those with urea. The descriptions of them, and the results obtained, will be found in Table VI.

On reference to the Table it will be seen that the first experiment, No. 16, was stopped just at the commencement of fermentation, and the results give the chemical changes which were set up during the earliest stages of activity of the organisms; thus 0.61 cc. oxygen was absorbed, and 1.4 cc. CO₂ and 0.001 grm. nitrogen as ammonia were formed.

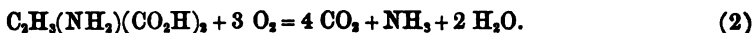
The results of the next experiment, No. 17, and also No. 18, indicate more advanced steps of the fermentation; but in these cases the oxygen originally present had been completely absorbed; consequently the results may have been slightly affected by anaërobic conditions. It will, however, be noticed that the amount of ammonia formed in both these experiments was very large in comparison with the volumes of carbon dioxide which were also formed. The nitrogen

TABLE VI.

Analyses giving the Oxygen consumed, and the Inorganic Products formed, by the Respiratory and Enzymic Changes exerted by Water Organisms during the earliest and later stages of their development and activity in Solutions containing .123 grm. Asparagine (equivalent to 82.88 cc. CO₂ and .026 grm. N), and 0.1 grm., each, Sodium Carbonate, Potassium Phosphate, and Potassium Chloride, per litre.

| No. | Description of Experiments. | Dissolved Gases. | | | N as NH ₃ | Organic N | Oxygen absorbed from air in flask. | Respiratory Changes. | | | Enzymic changes. N as NH ₃ formed. |
|-----|---|------------------|----------------|----------------|----------------------|-----------|------------------------------------|-------------------------|--------------------------|------------------------------|---|
| | | CO ₂ | O ₂ | N ₂ | | | | CO ₂ formed. | O ₂ absorbed. | N as NH ₃ formed. | |
| 15 | Solution when freshly made, | 17.62 | 6.94 | 13.89 | .000 | .026 | — | — | — | — | — |
| 16 | Part kept for 8 days out of contact with air, .. | 19.02 | 6.33 | 13.74 | .001 | — | — | 1.40 | 0.61 | .001 | — |
| 17 | Another part kept for 5 days, | 29.36 | 0.0 | 13.74 | .013 | — | — | 11.74 | 6.94 | .001 | .012 |
| 18 | Another part kept for 5 days, | 29.78 | 0.0 | 13.73 | .013 | — | — | 12.16 | 6.94 | .001 | .012 |
| 19 | Another part kept 5 days in contact with 122.4 cc. air per litre. | 39.23 | 3.35 | 14.42 | .0155 | — | 12.3 | 21.61 | 15.59 | .0035 | .012 |
| 20 | Portion of 16 kept 2 days in contact with 271.4 cc. air per litre. | 39.50 | 5.61 | 14.82 | .0148 | — | 13.8 | 21.88 | 15.1 | .0028 | .012 |
| 21 | Portion of 18 kept 3 days in contact with 186.3 cc. air per litre. | 49.83 | 3.18 | 14.28 | .017 | .008 | 19.8 | 32.21 | 23.6 | .005 | .012 |
| 22 | Portion of 19 kept 3 days in contact with 366 cc. air per litre. | 60.95 | 3.89 | 14.49 | .018 | .0076 | 30.2 | 43.32 | 34.1 | .006 | .012 |
| 23 | Portion of 17 kept 42 days in contact with 324.5 cc. air per litre. | 73.66 | 3.13 | 14.22 | .0216 | .004 | 38.0 | 56.04 | 41.8 | .0096 | .012 |
| 24 | Portion of 20 kept 43 days in contact with 631.5 cc. air per litre. | 74.63 | 4.87 | 14.37 | .0216 | .0044 | 42.6 | 57.01 | 44.67 | .0096 | .012 |
| 25 | Another solution at commencement, | 20.56 | 7.18 | 14.26 | .000 | .026 | — | — | — | — | — |
| 26 | Part kept 5 days out of contact with air, .. | 33.21 | 0.02 | 14.25 | .013 | — | — | 12.65 | 7.15 | .001 | .012 |
| 27 | Another part kept for 8 days, | 33.28 | 0.08 | 14.25 | .013 | — | — | 12.72 | 7.08 | .001 | .012 |
| 28 | Portion of 26 kept 22 days in contact with 304 cc. air per litre. | 76.81 | 2.79 | 14.98 | .022 | .004 | 40.0 | 56.25 | 44.4 | .01 | .012 |
| 29 | Portion of 28 kept 23 days in contact with 536.3 cc. air per litre. | 76.50 | 6.77 | 14.40 | .022 | .004 | 6.6 | — | 2.6 | — | — |
| 30 | Portion of 27 kept 48 days in contact with 561.4 cc. air per litre. | 74.13 | 5.30 | 15.12 | .020 | — | 40.6 | 53.57 | 42.5 | .008 | .012 |

as ammonia amounts to one-half the nitrogen originally present in the asparagine, while the carbon dioxide only accounts for one-seventh of the carbon. Such a result cannot be referred to anaërobic conditions, and it may be concluded, having regard to the ease with which asparagine is hydrolysed, that in both the experiments practically the whole of it was changed by enzymic action into aspartic acid and ammonia, and that the respiratory changes were subsequently exerted upon the aspartic acid so formed, in accordance with the following equations :—



From equation (1) it is seen that, as a result of hydrolysis, one-half of the nitrogen in asparagine is retained in the product, aspartic acid, and one-half goes to form ammonia.

Since, in the case of asparagine, ammonia is the sole inorganic product of enzymic change, the whole of the carbon dioxide formed during its fermentation may be regarded as the result of respiratory changes.

The experiments recorded in the Table form a series illustrating different stages of fermentation from commencement to completion; and the course of the fermentative changes are best shown by the accompanying curves; thus, when the carbon dioxide and ammonia are plotted together, the course of change is represented by two straight lines, one showing the course of enzymic changes, the other the after-effect of respiratory changes upon the aspartic acid, the organic product of the first-named changes.

When the volumes of carbon dioxide formed and of oxygen absorbed are plotted together, a straight line is also obtained.

It may, therefore, be concluded that the absorption of the greater part, if not of the whole, of the oxygen may also be regarded as due to respiratory changes.

The quantities of carbon dioxide and of ammonia which resulted from the complete fermentation of the solutions of asparagine employed are shown by the results of experiments 23 and 24 with the first solution, and by experiments 28 and 29 with the second solution. They may be taken to be 56.25 cc., and 0.01 gram. nitrogen as ammonia, per litre. These quantities represent 67.9 per cent. of the carbon, and 72 per cent. of the nitrogen in the aspartic acid formed by the hydrolysis of the asparagine.

Hence it may be concluded that asparagine, when fermented by water-organisms under aërobic conditions, may undergo complete enzymic change into aspartic acid and ammonia during the earlier stages of activity of the organisms, and that the aspartic acid subsequently suffers respiratory changes, which account for about 68 per cent. of its carbon and 72 per cent. of its nitrogen, the remaining 32 per cent. of the former and 28 per cent. of the latter being taken up by other physiological processes not yet examined.

The Fermentation of Albumose.

Albumose has been taken as a type of albuminous substances, because it is easily dissolved, and readily undergoes fermentative changes. Egg albumen, on the contrary, is very difficult to ferment under the conditions of experiment employed in this investigation. Solutions of egg albumen undergo slight change only, the albumen being deposited as a thin iridescent film on the sides of the containing vessel, and remaining unoxidized.

It was anticipated that albumose, itself a product of enzymic change, would not suffer further change by such process, under the conditions of experimenting, and that consequently the inorganic products resulting from its fermentation would be entirely due to respiratory changes.

The details of the experiments, and the results obtained from them, will be found in Table VII. Different stages in the fermentation, from commencement to finish, are illustrated by the experiments.

On plotting together the carbon dioxide and ammonia formed, a practically straight line is obtained. An approximately straight line is also obtained when the volumes of carbon dioxide formed, and of oxygen absorbed, are plotted together.

It may, therefore, be concluded that the oxygen absorbed, and the two inorganic products formed, in these experiments, were the result of respiratory changes.

The fermentation of the albumose was complete in the experiments 36, 37, and 38; and the carbon dioxide formed in each of these amounted to 22.16, 22.74, and 22.51 cc. per litre, and the nitrogen, as ammonia, to 0.0041, 0.0042, and 0.0044, respectively. The volumes of oxygen absorbed in these experiments were, respectively, 23.1, 23.91, and 22.57 cc.

The quantities of carbon dioxide and ammonia formed in these experiments account for about 78.5 per cent. of the carbon, and 76.5 per cent. of the nitrogen, originally present in the albumose.

TABLE VII.

Analyses giving the Oxygen consumed, and the Inorganic Products formed, by the Respiratory Changes exerted by Water-Organisms during the earliest and later stages of their development and activity in Solutions containing 0.05 grm. dry Albumose, equivalent to 28.68 cc. CO₂, and 0.0055 grm. N, and 0.1 grm., each, Sodium Carbonate, Potassium Phosphate, and Potassium Chloride, per litre.

| No. | Description of Experiments. | Dissolved Gases. | | | N as NH ₃ | Organic N | Oxygen absorbed from air in flask. | Respiratory Changes. | | |
|-----|--|------------------|----------------|----------------|----------------------|-----------|------------------------------------|-------------------------|--------------------------|------------------------------|
| | | CO ₂ | O ₂ | N ₂ | | | | CO ₂ formed. | O ₂ absorbed. | N as NH ₃ formed. |
| 31 | Solution when freshly made, | 18.34 | 7.36 | 14.69 | .00003 | .0055 | — | — | — | — |
| 32 | Portion kept 8 days out of contact with air, .. | 19.38 | 6.28 | 14.57 | .0003 | — | — | 1.04 | 1.08 | .0003 |
| 33 | Another portion kept 7 days out of contact with air, .. | 20.97 | 5.01 | 14.68 | .0005 | — | — | 2.63 | 2.35 | .0005 |
| 34 | Another portion kept 7 days out of contact with air, .. | 26.27 | 0.22 | 14.64 | .0016 | — | — | 7.93 | 7.14 | .0016 |
| 35 | Another portion kept 9 days in contact with 118 cc. air per litre. | 30.76 | 4.07 | 15.52 | .0024 | — | 8.9 | 12.42 | 12.19 | .0024 |
| 36 | Another portion kept 29 days in contact with 204 cc. air per litre. | 40.50 | 3.80 | 14.19 | .0041 | — | 19.5 | 22.16 | 23.1 | .0041 |
| 37 | A portion from 32, kept 31 days in contact with 310.6 cc. air per litre. | 41.06 | 4.75 | 14.22 | .0042 | — | 21.3 | 22.74 | 23.91 | .0042 |
| 38 | A portion from 33, kept 51 days in contact with 419.5 cc. air per litre. | 40.85 | 5.49 | 14.35 | .0044 | — | 20.7 | 22.51 | 22.57 | .0044 |
| 39 | A portion from 35, kept 31 days in contact with 189 cc. air per litre. | 40.71 | 4.87 | 14.14 | .0044 | — | 12.3 | 9.95 | 11.15 | .002 |

The Fermentation of Rochelle Salt.

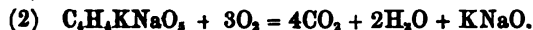
Rochelle salt, as was shown in the earlier part of this communication, readily and quickly undergoes fermentative change when mixed with urea.

It also undergoes fermentation, though not so quickly, when unassociated with any source of nitrogen, save that of the air.

The experiments with this substance are recorded in Table VIII. Different stages of fermentation from commencement to finish are illustrated by them.

On plotting the carbon dioxide formed with the oxygen absorbed, the course of fermentation is seen to take place in two equal and progressive stages, and the course of each is represented by a straight line.

During the first stage of oxidation, the Rochelle salt is converted into potassium sodium malate, carbon dioxide, and water; and the malate is oxidised during the second stage to carbon dioxide and water, according to the equations:—



The volume of carbon dioxide formed, and of oxygen absorbed, by the complete fermentation, may be taken, from experiments 48, 49, and 50, to be 33.3 and 20 cc. per litre, respectively. These volumes are in the proportion of 8 : 5, nearly; that is, the proportions required by the equation already given, p. 17, showing the complete oxidation of the Rochelle salt into carbon dioxide, water, and sodium, and potassium carbonate.

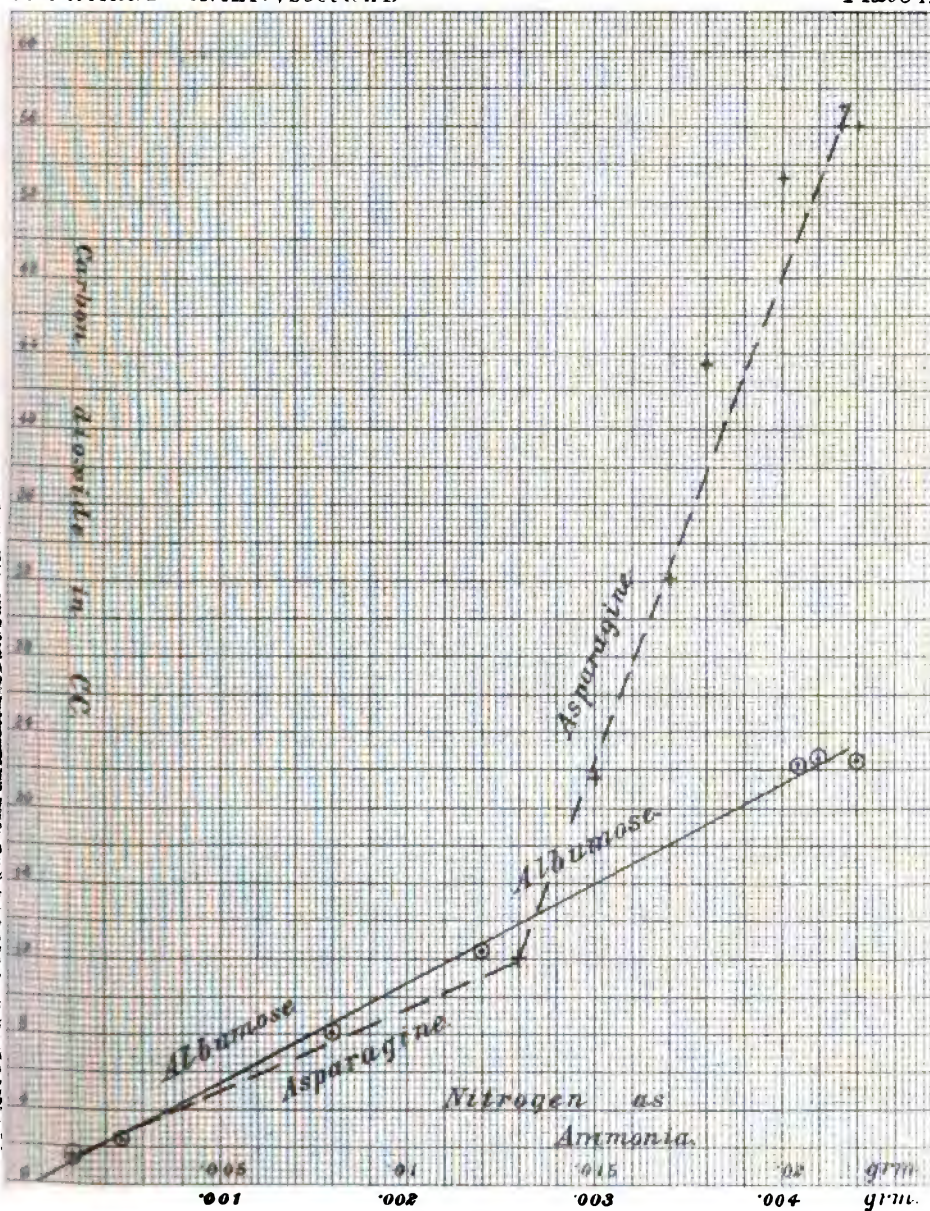
The total volume of carbon dioxide formed in complete fermentation represents 74.5 per cent. of the carbon originally present in the Rochelle salt. The other physiological processes not examined, therefore, took up 25.5 per cent.

[TABLE VIII.]

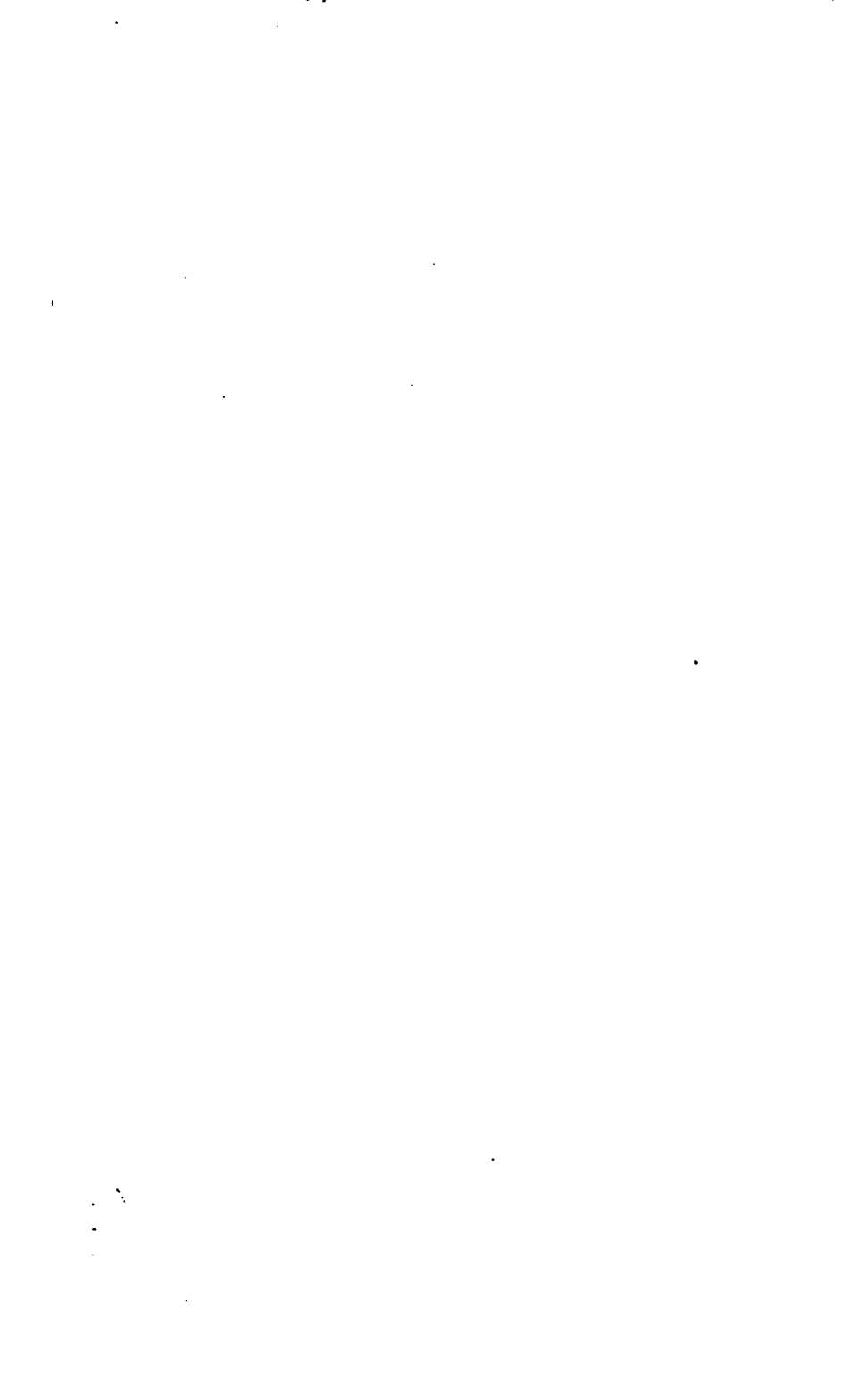
TABLE VIII.

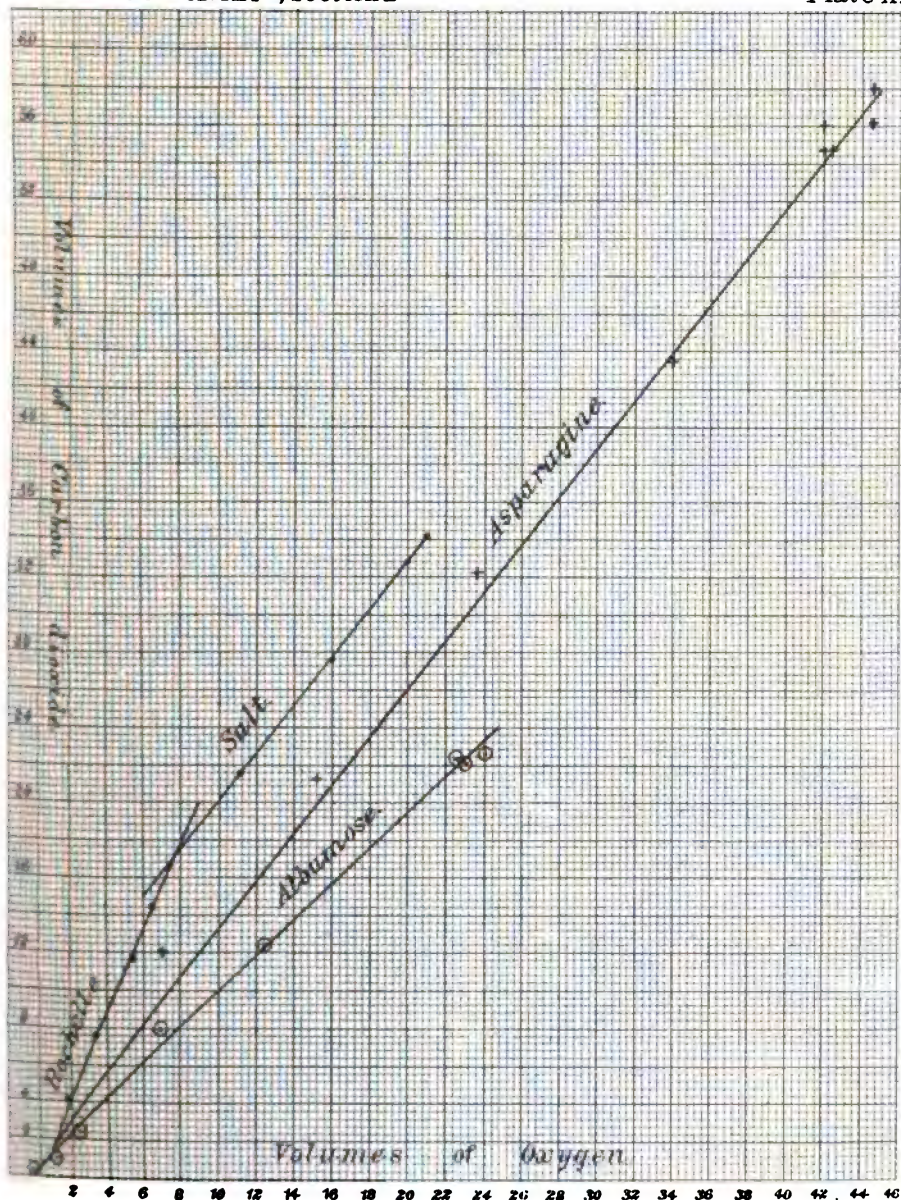
Analyses giving the Oxygen consumed, and the Inorganic Products formed, by the Respiratory Changes exerted by Water-Organisms during the earliest and later stages of their development and activity in Solutions containing .141 gm. Rochelle Salt (equivalent to 44.64 cc. CO_2), and .1 gm. each, Sodium Carbonate, Potassium Phosphate, and Potassium Chloride, per litre.

| No. | Description of Experiments. | Dissolved Gases. | | | N as NH_4 | Organic N | Oxygen absorbed from air in flask. | Respiratory Changes. | |
|-----|---|------------------|--------------|--------------|--------------------|-----------|------------------------------------|-----------------------|------------------------|
| | | CO_2 | O_2 | N_2 | | | | CO_2 formed. | O_2 absorbed. |
| 40 | Solution when freshly made, | 22.45 | 6.89 | 13.63 | 0.0 | .0003 | — | — | — |
| 41 | Portion of the solution 18 days later, | 23.47 | 6.89 | 13.70 | 0.0 | — | — | 1.02 | — |
| 42 | Another portion similarly kept, | 26.58 | 5.45 | 13.57 | 0.0 | — | — | 4.13 | 1.44 |
| 43 | Another portion similarly kept, | 30.11 | 3.52 | 13.69 | 0.0 | — | — | 7.66 | 3.37 |
| 44 | Another portion kept 20 days, | 34.10 | 1.63 | 13.59 | 0.0 | — | — | 11.65 | 5.26 |
| 45 | Another portion also kept 20 days, | 36.78 | 0.44 | 13.61 | 0.0 | — | — | 14.33 | 6.45 |
| 46 | A portion of No. 43, after further keeping for 38 days in contact with 409.2 cc. air per litre. | 44.18 | 6.38 | 14.46 | trace | — | 10.7 | 21.73 | 11.21 |
| 47 | A portion of 45 kept in contact with 507 cc. air per litre for a further 15 days. | 50.01 | 6.01 | 13.93 | trace | — | 16.06 | 27.56 | 15.94 |
| 48 | Portion of 44 kept in contact with 497.7 cc. air per litre for a further 43 days. | 55.29 | 6.14 | 15.11 | trace | .0002 | 19.2 | 32.84 | 19.95 |
| 49 | Portion of 42 kept in contact with 430.8 cc. air per litre for a further 47 days. | 55.78 | 5.98 | 14.63 | trace | .0002 | 18.27 | 38.33 | 19.2 |
| 50 | Portion of 41 kept in contact with 241 cc. air per litre for a further 95 days. | 56.4 | 4.76 | 14.99 | trace | .00025 | 18.9 | 33.95 | 20.93 |



Curves showing the $\text{CO}_2 : \text{NH}_3$ formed in aërobic fermentation of very dilute solutions of Albumose and of Asparagine.





Curves showing the $\text{CO}_2 : \text{O}_2$ in the aërobic fermentation of very dilute solutions of Asparagine and of Rochelle Salt.

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3

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VOLUME XXV., SECTION B, No. 3

JANE STEPHENS

A LIST OF IRISH CŒLENTERATA,
INCLUDING THE CTENOPHORA



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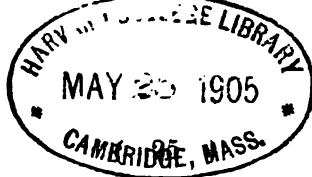
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III.

A LIST OF IRISH CŒLENTERATA, INCLUDING THE CTENOPHORA.

By JANE STEPHENS, B.A., B. Sc.

BEING A REPORT FROM THE ROYAL IRISH ACADEMY FAUNA AND FLORA COMMITTEE. COMMUNICATED BY R. F. SCHARFF, PH.D.

[Read FEBRUARY 27 ; Ordered for publication MARCH 1 ;
Published APRIL 8, 1906.]

THE first account of Irish Cœlenterata was published just one hundred and fifty years ago, when John Ellis, in his "Essay towards a Natural History of the Corallines and other Marine Productions of like kind commonly found on the Coasts of Great Britain and Ireland," described and gave beautiful figures of several Calyptoblastic Hydroids and a species of Gorgonia found on the Irish coast. Eighty-one years later, in 1836, Templeton, in the "Magazine of Natural History," recorded a number of species from Ireland. A. H. Hassall, in 1841, drew up a "Catalogue of Irish Zoophytes"; most of his specimens were collected in Dublin Bay. William Thompson, in the fourth volume of his "Natural History of Ireland," 1856, gives a list of 102 species, about twenty of which, however, are not now considered recognised species. This is the most recent list containing an account of all the different classes of the Cœlenterata. About this time G. J. Allman, J. B. Greene, and E. P. Wright worked, respectively, at the Hydroids, Medusæ, and Sea-anemones. Of late years Dr. Duerden has added largely to the records of Irish Hydroids, Prof. Haddon to the Actinixæ, and Mr. E. T. Browne to the Medusæ of the south-west coast.

The following list contains about 250 species, excluding many doubtful ones. The parts of the coast which have been best worked out are the north-east, east, and south-west; while the north-west still remains neglected, and many of the commonest species have not yet been recorded from it.

With Mr. A. R. Nichols' kind permission, I have followed his definition of the Irish marine area, and his division of the coast of Ireland into the six provinces which he has adopted in his reports on

the "Marine Mollusca of Ireland" (Proc. Roy. Irish Acad. (3), v., 1900) and on "Irish Echinoderms" (Proc. Roy. Irish Acad., xxiv., Sect. B., 1903), namely:—

- i. North-east.—From Malin Head, Co. Donegal, to St. John's Point, Co. Down.
- ii. East.—From St. John's Point to Carnsore Point, Co. Wexford.
- iii. South.—From Carnsore Point to Cape Clear, Co. Cork.
- iv. South-west.—From Cape Clear to Loop Head, Co. Clare.
- v. West.—From Loop Head to Erris Head, Co. Mayo.
- vi. North-west.—From Erris Head to Malin Head, Co. Donegal.

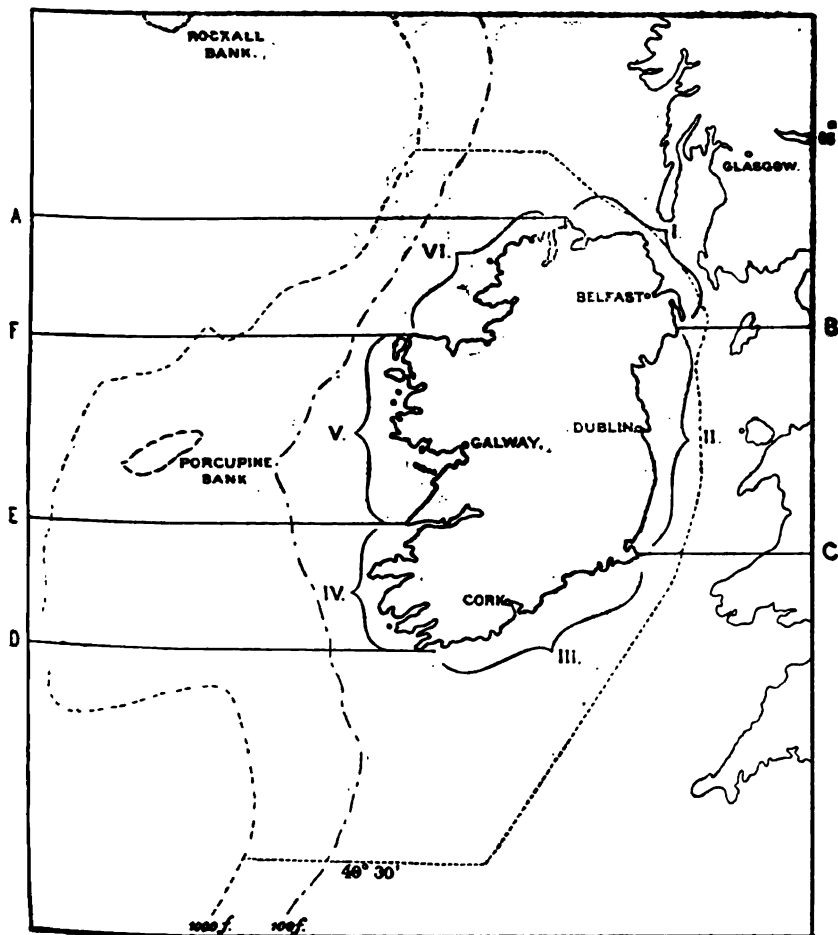
The classification of the Hydroids is based on that proposed by K. C. Schneider in his paper on the "Hydropolypen von Rovigno, nebst Uebersicht des Systems der Hydropolypen im Allgemeinen" (Zoologische Jahrbücher, x., 1898), while the Medusæ are arranged according to Haeckel. The Hydroids and Medusæ are kept quite distinct, as any attempt to combine them would create too much confusion in a list of this kind; when possible, however, the Medusa is given the name belonging to its Hydroid. The arrangement of the Anthozoa is taken from Professor Ray Lankester's "Treatise of Zoology," Part II. The nomenclature and synonymy of the Sea-anemones, especially, is still in a very unsatisfactory state.

Very few Ctenophora occur off our coast; they are included here, although attempts have lately been made to class them with the Turbellarian worms.

The Hydroids of the Irish Coast belong, for the most part, to widely distributed species, some of them having been recorded for North America, India, Australia, and New Zealand. On the other hand, *Tubiclava lucerna*, *T. cornucopiæ*, and *Heterocordyle conybeari* have been recorded for two, or at the most, three localities; while *Perigonimus gelatinosus*, *P. inflatus*, and *Campanulina turrita* seem to have been found hitherto only off the Irish coast. The fresh-water Hydroids are very few in number, namely *Cordylophora lacustris* and three species of *Hydra*, and are included in this list.

Our knowledge of the Medusæ of the south-west of Ireland is almost entirely due to Mr. E. T. Browne; while Professor Haddon, working chiefly at the material collected during several Royal Irish Academy Expeditions, has added some Sea-anemones to the British Fauna:—*Edwardsia* [tecta, *Halcampa arenarea*, *Epizoanthus wrightii*, *Parazoanthus dizoni*, *Chitonactis marioni*, *Paraphellia expansa*, *Gephyra dohrnii*, and a species of *Actinerus*.

Attention has been drawn to the overlapping of species characteristic of the northern and southern faunas on the south-west coast of Ireland; and it is interesting to notice how this works out in connection with the Coelenterata.



Map showing the Shallow- and Deep-water District, and the six Provinces.

A—Malin Head. C—Carnsore Point. E—Loop Head.
 B—St. John's Point. D—Cape Clear. F—Erris Head.

Among the Hydromedusæ, *Meliceridium octocostatum* and *Margelis pyramidata*, for example, are northern forms, while the Siphonophore *Muggiaea atlantica* is southern. The Trachomedusæ and Narcomedusæ are to be regarded merely as visitors to the coast from their ocean home; they are essentially Atlantic forms. Among the Sea-anemones *Epizoanthus incrustatus*, *Parazoanthus anguicomus*, and perhaps *Actinauge richardi*, may be regarded as northern species, while *Gephyra dohrnii* is distinctly southern.

Owing to the vague and indefinite character of the descriptions in some of the older papers, it is almost impossible to refer the species in question to their proper positions in the group. A list of the names of these doubtful species is given in the appendix. An index of generic and specific names is also given at the end of the paper.

My thanks are due to Dr. Scharff for the advice and assistance he so kindly gave me when drawing up this list.

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**HYDROMEDUSÆ.
GYMNOBLASTEÆ.**

Family—**CORYNIDÆ.**

Coryne pusilla, Gaertner. *Coryne glandulosa*, Lamarck.

i., ii., . iv., v., vi.

- i. Strangford Lough (Thompson '40).
- ii. Dalkey (Haddon '86): Rush (Duerden '97): Howth (Dublin Mus.).
- iv. Berehaven, coll. R. I. A. Exp.; * Dursey Island (Duerden '97).
- v. Kilkieran Bay, coll. R. D. S.* (Duerden '97).
- vi. Donegal Bay (Duerden '97).

Coryne vaginata, Hincks. *Tubularia muscoides*, Thompson.
Hermia glandulosa, Hassall. *Coryne ramosa*, Johnston.

i., ii., iii., iv., v., .

- i. Strangford Lough (Thompson '40).
- ii. Ireland's Eye (Thompson '40): Dublin Bay (Hassall '41B):
Dalkey Island (Haddon '86): Rush (Duerden '94A).
- iii. South Coast of Ireland (Allman '71-'72).
- iv. Valencia Harbour (Gamble '96, sub *C. pusilla*; Browne '97).
- v. Clew Bay (Hincks '68).

Coryne vanbenedenii, Hincks.

. ii.,

- ii. Recorded as a rare species, found in Killiney Bay, by the
Hon. Miss Lawless (Mackintosh '78).

Syncoryne eximia (Allman). ?*Coryne listerii*, Van Beneden.

? i., ? ii.,

- ? i. Ballyholme, Belfast Bay (Thompson '46, sub *Coryne listerii*,
Van Ben.).
- ? ii. Scotch Bay, Kingstown, coll. A. C. Haddon and H. W. Jacob
(Haddon '86).

Identification not considered certain by Professor Haddon, as gonophores were not present on his specimens.

* The specimens obtained during the Expeditions of the Royal Irish Academy (R. I. A.) and the Royal Dublin Society (R. D. S.) are now in the collection of the Dublin Museum.

***Syncoryne frutescens*, Allman.**

. ii.,

- ii. **Kingstown.** This species was only once met with: it was found attached to floating logs in a reservoir exposed to the tide and constantly supplied by sea-water from Dublin Bay (Allman '71-'72).

***Cladonema radiatum*, Dujardin.**

. . . iv., . .

- iv. **Valencia Harbour**, found by Miss M. Delap (Browne 1900).

***Clavatella prolifera*, Hincks.**

. . iii., . . .

- iii. **Cork** (Allman '71-'72).

Family—TUBULARIIDÆ.***Tubularia indivisa*, Linn.**

i., ii., iii., iv., v., .

A common species, but apparently not recorded from vi.

***Tubularia larynx*, Ellis and Solander.**

i., ii., . iv., . vi.

- i. **Belfast Lough; Strangford Lough** (Thompson '40): off Larne, 70-90 fms. (Hyndman '59).
 ii. **Dublin Bay**, coll. R. Ball (Thompson '40): Howth, Lambay, and Kingstown (Hassall '41B): Ireland's Eye (Irvine '54).
 iv. **Off the Blasket Islands**, 35-40 fms. (Andrews '70A): Valencia Harbour (Browne '97): Bantry Bay (Dublin Mus.).
 vi. **Bundoran** (Duerden '95A).

***Tubularia simplex*, Alder.**

. . . iv., . .

- iv. **Berehaven**, 7 fms., coll. R. I. A. Exp. 1888 (Duerden '93).

***Tubularia bellis*, Allman.**

. . . iv., . .

- iv. **Dursey Island**, at extreme low water (Duerden '97): Dingle Bay (Dublin Mus.).

Tubularia humilis, Allman.

. ii., iii., . . .

ii. Dalkey Island (Haddon '86).

iv. Mouth of Kinsale Harbour (Allman '64).

Tubularia coronata, Abildgaard. *Tubularia larynx*, var. β , Johnston.
Tubularia gracilis, Harvey.

. ii., . iv., . .

ii. Howth, Lambay, and Kingstown (Hassall '41 β): Portmarnock
(Baily '65).

iv. South-west Ireland (Bourne '90).

Ectopleura dumortierii (Van Beneden).

? i.,

ii. Belfast Lough, coll. Wyville Thomson (Hyndman '58). Hincks examined some of the Belfast specimens, and says that they "are much stouter and of coarser texture than any examples I have seen of *E. Dumortierii*, and, I believe, must be referred to some other species."

Corymorpha nutans, Sars.

. ii., . iv., . .

ii. Scotch Bay, Kingstown (Haddon '86).

iv. Valencia (Dublin Mus.).

Family—**MYRIOTHELIDÆ**.**Myriothela phrygia** (Fabricius).

. . . iv., . .

iv. Church Island and Murreagh Point, Valencia (Gamble '96).

Family—**CLAVIDÆ**.**Clava multicornis** (Forsk.).

i., ii., . iv., v., vi.

i. White House Point (Templeton '36): Strangford Lough (Thompson '56): Belfast Lough (Hyndman '58).

ii. Dublin coast (Mackintosh '78).

- iv. R. I. A. Exp. 1885 and 1886, Dursey Sound, 20–25 fms.; Kenmare River, 23–48 fms.; Berehaven, 5–10 fms. and 37½ fms. (Duerden '93): Ballinskelligs Bay, 55 fms., coll. R. D. S. (Duerden '97): Valencia Harbour (Browne '97): Smerwick Harbour (Dublin Mus.).
- v. Clifden (Thompson '56): Roundstone (Duerden '97).
- vi. Lough Swilly, on *Inachus*; Killybegs, on *Stenorhynchus*, coll. R. D. S.: Donegal Bay (Duerden '97).

***Clava squamata* (Müller).**

. ii., . iv., . .

- ii. Seapoint (Hassall '41B): Dublin Bay (Allman '71–'72).
- iv. Valencia Harbour (Gamble '96; Browne '97.)

***Rhizogeton fusiformis*, Agassiz.**

. . . iv., . .

- iv. Knightstown, Valencia, "hitherto only found in Massachusetts Bay, U.S.A." (Gamble '96; Browne '97.)

***Cordylophora lacustris*, Allman.**

Found in the Grand Canal, Dublin (Allman, '44A).

***Tubiclava lucerna*, Allman.**

. ii.,

- ii. Dublin Bay (Allman '63): Dalkey, coll. Hon. Miss Lawless (Mackintosh '78).

***Tubiclava cornucopiæ*, Norman.**

. . . . v., .

- v. Blacksod Bay, 6–8 fms., on the shells of *Astarte sulcata* (Duerden in the Irish Naturalist, 1893; and Duerden '95).

Family—BOUGAINVILLIIDÆ.

***Bougainvillia ramosa* (Van Beneden).**

. . iii., iv., . vi.

- iii. Glandore Harbour, growing on *Retepora couchii*, 4 fms., coll. R.I.A. Exp. 1886 (Duerden '93).

- iv. Dingle Bay; Berehaven, coll. R.I.A. Exp.; off the Skelligs, 80 fms. (Duerden '97): Kenmare River, Bantry Bay (Dublin Mus.).
- vi. Donegal Bay, coll. J. E. Duerden; Lough Swilly, coll. R. D. S. (Duerden '97).

Bougainvillia fruticosa, Allman. *Eudendrium ramosum*, Allman.

... iv., . .

- iv. Mouth of Kenmare River, on a piece of floating timber (Allman '58A): Bantry Bay, on *Stenorhynchus*, coll. R.D.S. (Duerden '95).

The Bantry Bay specimens were described by Duerden in the Irish Naturalist, ii., 1893, as belonging to a new species, intermediate between *B. ramosa* and *B. muscus*: they were afterwards found to be *B. fruticosa*.

Perigonimus repens (T. S. Wright).

.. iii., iv., v., .

- iii. Thirteen miles south-west of Galley Head, and south south-west of Barlogue, coll. R. I. A. Exp. 1886 (Dublin Mus.).
- iv. Berehaven, on *Sertularia abietina*, coll. R. I. A. Exp. 1885 (Duerden '93): Dingle Bay; Bantry Bay; the Skelligs, 40-80 fms., coll. R.D.S. (Duerden '95).
- v. Galway Bay, on *Scaphander*, from 15 fms., coll. R. D. S. (Duerden '95).

Perigonimus gelatinosus, Duerden.

.. iii., iv., . .

- iii. Eleven miles south of Glandore Harbour, 54 fms., coll. R.I.A. Exp. 1888 (Dublin Mus.).
- iv. Dingle Bay, 40 fms., coll. R. D. S.; south-west of Ireland 50 fms.; $9\frac{1}{2}$ miles south-west of Castletown Berehaven, $37\frac{1}{2}$ fms., coll. R. I. A. Exp. 1886 and 1888 (Duerden '95).

Perigonimus ?inflatus, Duerden.

.. iii., . . .

- iii. From rather deep water, growing on other Zoophytes; 11 miles south of Glandore Harbour, 64 fms.; 13 miles south-west of Galley Head, 43 fms., coll. R. I. A. Exp. 1886 and 1888 (Duerden '95).

***Perigonimus* ? *linearis* (Alder).**

. . . iii., . . .

- iii. Eleven miles south of Glandore Harbour, 54 fms., coll. R. I. A.
Exp. 1888 (Duerden '93).

G. C. Bourne ('90) records a species under the name of *Perigonimus armaceus*, ? which was found off the south-west of Ireland at a depth of 200 fms.

***Hydractinia echinata* (Fleming). ?*Clava minuticornis* (Müller).**
?*Clava capitata*, Müller. ?*Hydra corynaria*, Templeton. *Alcyonidium echinatum*, Johnston. *Echinochorium clavigerum*, Hassall.

i., ii., iii., iv., v., vi.

This species is common round the coast. Thompson ('40) and Hassall ('41 and '41b) give descriptions of it under the names *Alcyonidium echinatum* and *Echinochorium clavigerum*. A Hydroid has been recorded from Belfast Lough under the name *Hydra corynaria* (Templeton '36), which may possibly, according to Johnston, be referred to *H. echinata*.

***Podocoryne carnea*, Sars.**

. . . iii., iv., v., .

- iii. Long Island Bay, on *Buccinum undatum*, inhabited by *Pagurus*,
coll. R.I.A. Exp. 1885 (Duerden '93).
iv. Berehaven (Dublin Mus.).
v. Galway Bay, on *Nassa*; Blacksod Bay, on *Aporrhais*, coll. R.D.S.
(Duerden '97).

***Podocoryne areolata* (Alder).**

. . . iv., . . .

- iv. Dursey Head, 93 fms.; Berehaven, 7 fms.; 40 miles off the south-west of Ireland, 75-90 fms., coll. R.I.A. Exp. 1885 and 1886 (Duerden '93): south-west of Ireland, 150 fms., growing on *Aporrhais pes-carbonis*, coll. "Flying Fox" Exp. 1889 (Kirkpatrick '89).

Dicoryne conferta (Alder).

. . iii., iv., . .

- iii. Scullane Bay, coll. R.I.A. Exp. 1886 (Dublin Mus.).
- iv. Bantry Bay, 40 fms.; Berehaven, 7 fms.; coll. R.I.A. Exp. 1885 and 1888 (Duerden '93): off the Skelligs, 50 fms.; Kenmare River, coll. R.D.S. (Duerden '97).

Garveia nutans, T. S. Wright.

i., ii.,

- i. Belfast Lough (Hurst in the Irish Naturalist, v., 1896).
- ii. Dalkey Island (Haddon '86).

Bimeria vestita, T. S. Wright.

. . . . vi.

- vi. Lough Swilly, 6-8½ fms.; coll. R.D.S. (Duerden '95).

Heterocordyle conybeari, Allman.

. . . iv., . .

- iv. Glengarriff Harbour, co. Cork. "Dredged in considerable abundance from a rather muddy bottom—always investing old gasteropodous shells." (Allman '64).

Wrightia arenosa (Alder). *Attractylis arenosa*, Alder.

. ii., . iv., . .

- ii. South-west of Ireland, 50 fms., coll. R.I.A. Exp. 1888 (Duerden '93).

Family—EUDENDRIIDÆ.

Eudendrium rameum (Pallas). *Tubularia ramea*, Pallas.

i., ii., iii., iv., . vi.

- i. Belfast Lough; off the Gobbins (Hyndman '58).
- ii. Blackrock, Dublin (Hassall '41).
- iii. South-west of Galley Head, 43 fms.; south of Glandore Harbour, coll. R.I.A. Exp. 1885 and 1886 (Duerden '93): Cork Harbour and Wexford (Dublin Mus.).
- iv. South-west of Ireland, 55 fms., coll. "Flying Fox" Exp. (Kirkpatrick '89): Great Skellig, 70-80 fms., coll. R.I.A. Exp. 1888 (Duerden '93): 40 miles off Bolus Head, 115 fms., coll. R.D.S. (Duerden '97): Bantry Bay, 50-60 fms. (Dublin Mus.).
- vi. Lough Swilly, on *Hyas araneus*, coll. R.D.S. (Duerden '97).

Eudendrium ramosum (Linn.). *Tubularia ramosa*, Linn.

i., ii., iii., iv., v., vi.

Found all round the Irish coast.

Eudendrium capillare, Alder.

. ii., . iv., v., vi.

ii. Dublin Bay (Haddon '86).

iv. Berehaven (Duerden '97).

v. Casheen Bay; Kilkieran Bay; Blacksod Bay (Duerden '97).

vi. Off Malin Head, coll. R.D.S. (Duerden '97).

Eudendrium insigne, Hincks.

. vi.

vi. Lough Swilly, 8-12 fms., coll. R.D.S. (Duerden '95).

Family—HYDRIDÆ.

Hydra viridis, Linn.

Found in a tank in the Botanic Gardens, Glasnevin, Dublin (Mackintosh '78): Sutton, Co. Dublin (F. M. Sellens in the Irish Naturalist, x., 1901): near Crumlin, coll. J. N. Halbert (Toppin 1901): Bandon, Co. Cork, coll. G. J. Allman (Thompson '41).

Hydra grisea, Linn. *Hydra vulgaris*, Pallas. *Hydra brunnea*, Templeton.

Found in the Lagan Canal, on stems of *Potamogeton natans* (Templeton '36): Zoological Gardens, Dublin (Thompson '56): Loughlinstown (Toppin 1901): and in the South of Ireland (Thompson '44A).

Hydra fusca, Linn. ? *Hydra verrucosa*, Templeton.

This species is recorded for Ireland (Allman '44). Thompson ('56) found it occurring plentifully in a pond in the Botanic Gardens, Belfast. It has also been collected at Sutton, county Dublin (F. M. Sellens in the Irish Naturalist, x., 1901).

Templeton ('36) describes a species from a pond at Cranmore, under the name of *Hydra verrucosa*: Allman considers it to be identical with *H. fusca*.

CALYPTOBLASTEÆ.

Family—HALECIDÆ.

Halecium halecinum (Linn.). *Thoa halecina*, Lamouroux.

i., ii., iii., iv., v., .

Common round the coast.

Halecium muricatum (Ellis and Solander). *Thoa muricata*, Couch.

i., ii., . . .

- i. The Giant's Causeway (Hassall '41B).
- ii. "A specimen (of *H. muricatum*) was found in the late W. Thompson's collection, marked Newcastle, county Down" (Hyndman '58).

Halecium beanii (Johnston). *Thoa beanii*, Johnston.

i., ii., iii., iv., v., .

Common round the coast.

Halecium tenellum, Hincks.

. ii., . . . vi.

- ii. Monkstown (Mackintosh '78).
- vi. On *Tubularia*, from the Fairy Bridge, Bundoran (Duerden '95A).

Halecium plumosum, Hincks.

This species was described from a single Irish specimen in the collection of Trinity College, Dublin (Hincks '68).

Family—CAMPANULARIIDÆ.

Clytia johnstoni (Alder). *Campanularia colubilis*, Lamouroux.
Campanularia johnstoni, Alder.

i., ii., iii., iv., v., .

One of the commonest hydroids round the coast: apparently not yet recorded from vi.

Obelia geniculata (Linn.). *Laomedea geniculata*, Lamouroux.

i., ii., iii., iv., v., vi.

This very common hydroid has been recorded all round the coast.

Obelia gelatinosa (Pallas). *Laomedea gelatinosa*, Lamouroux.
Laomedea flemingii, Milne-Edwards.

i., ii., iii., . . .

- i. Bangor, county Down (Thompson '40): North-east coast (Hyndman '58).
- ii. Blackrock (Hassall '41): between Laytown and the Boyne (Duerden '94): Howth (Duerden '97).
- iii. Youghal, coll. Miss Ball (Thompson '40): Courtmacsherry Harbour, coll. J. G. Allman (Thompson '56).

Obelia longissima (Pallas).

. ii., . . v., vi.

- ii. Portmarnock, in Trinity College collection (Hincks '60): Howth, coll. W. M'Calla (Mackintosh '78).
- v. Galway Bay, coll. R. D. S. (Duerden '97).
- vi. Donegal Bay, coll. J. E. Duerden (Duerden '97).

Obelia dichotoma (Linn.). *Campanularia dichotoma*, Linn. *Laomedea dichotoma*, Lamouroux.

i., ii., iii., iv., v., vi.

This common species occurs all round the coast.

Obelia flabellata (Hincks).

. ii., . . v., vi.

- ii. Dublin Bay (Haddon '86).
- v. Roundstone, coll. J. E. Duerden (Duerden '97): S. Y. "Argo" Cruise off the West Coast (Herdman '91).
- vi. Bundoran, Donegal Bay, coll. J. E. Duerden (Duerden '97).

Campanularia volubilis (Linn.).

i., ii., . iv., v., vi.

- i. Belfast Lough (Templeton '36): Port Stewart, coll. R.D.S. (Duerden '97).
- ii. Dublin coast (Mackintosh '78, and Duerden '97).
- iv. Dursey Island (Duerden '97): Bantry Bay (Dublin Mus.).
- v. Blacksod Bay, coll. R. D. S. (Duerden '97).
- vi. Off Malin Head, coll. R. D. S. (Duerden '97).

***Campanularia verticillata*, Linn.**

. i., ii., iii., . . .

- i. Belfast Lough (Templeton '36): Magilligan, coll. G. C. Hyndman (Thompson '56).
- ii. Generally distributed.
- iii. Courtmacsherry Harbour, coll. G. J. Allman (Thompson '56): 13 miles south-west of Galley Head, coll. R.I.A. Exp. 1886 (Duerden '93): Barlogue, coll. R.I.A. Exp. 1886 (Dublin Mus.).

***Campanularia flexuosa* (Hincks).**

. ii., iii., iv., v., vi.

This species does not seem to be reported from i.; but is common round the coast.

- ii. Dublin (Mackintosh '78): between Laytown and the Boyne (Duerden '94): Dalkey Island (Dublin Mus.).
- iii. Glandore Harbour (Duerden '93).
- iv. Berehaven, coll. R.I.A. Exp. 1885 (Haddon '86A): Kenmare River, 23-38 fms., coll. R.I.A. Exp. 1886 (Duerden '93): Valencia Harbour (Browne '97.)
- v. Roundstone (Dublin Mus.); Killary Bay (Dublin Mus.).
- vi. Bundoran (Duerden 95A).

***Campanularia angulata*, Hincks.**

i., ii., iii., iv., v., .

- i. North of Ireland, coll. Wyville Thomson (Hincks '68).
- ii. Dublin (Mackintosh '78).
- iii. Youghal, coll. Miss Ball (Hincks '68).
- iv. Ballinskelligs Bay, coll. R.I.A. Exp. 1885 (Haddon '86A).
- v. Roundstone (Dublin Mus.).

***Campanularia neglecta* (Alder).**

. ii., . . v., .

- ii. Dalkey Sound (Duerden '97).
- v. West of Ireland, coll. S. Y. "Argo" Cruise (Herdman '91): Blacksod Bay, coll. R. D. S. (Duerden '97).

***Campanularia hincksii*, Alder.**

i., ii., . iv., . .

- i. North of Ireland, in deep water, coll. Wyville Thomson (Hyndman '58).
- ii. Dalkey, coll. Hon. Miss Lawless (Mackintosh '78): Dublin Bay, common, coll. J. E. Duerden (Duerden '97).
- iv. South-west of Ireland, 55 fms., coll. "Flying Fox" Exp. 1889 (Kirkpatrick '89).

***Campanularia integra*, Macgillivray.**

i.,

- i. Belfast Bay (Thompson '44 A).

***Campanularia caliculata*, Hincks.**

. ii., iii., . v., .

- ii. Recorded from Dublin in British Association List (Mackintosh '78).
- iii. The Old Head of Kinsale, coll. R. Allman (Hincks '53): Courtmacsherry Harbour (Allman '58).

***Campanularia exigua* (Sars).**

. ii.,

- ii. Recorded in the Dublin list (Mackintosh '78).

***Campanularia* (?) *gigantea*, Hincks.**

. ii.,

- ii. Dublin Bay, coll. A. C. Haddon (Dublin Mus.).

***Campanularia* (?) *raridentata*, Alder.**

. . iii., iv., v., .

- iii. Glandore Harbour, on *Bougainvillia ramosa*; Ballycotton Bay (Duerden '97).
- iv. Off the south-west of Ireland, coll. R. I. A. Exp. 1888 (Duerden '93).
- v. Blacksod Bay, on *Sertularella polynonias* (Duerden '97).

Lovenella clausa (Loven).

. ii., . . .

- ii. Recorded from Monkstown; ? genus (Mackintosh '78).

Lafoëa dumosa (Fleming). *Campanularia dumosa*, Fleming.

i., ii., iii., iv., . .

Common round the coast; but apparently not yet recorded from v. and vi.

Lafoëa parvula (Hincks). *Campanularia parvula*, Hincks.

i.,

- i. North of Ireland, on *Nitophyllum*, coll. Professor Hincks, Toronto (Hincks '53).

Lafoëa pocillum, Hincks.

. . ii.,

- ii. Howth, (Grant, in Journ. Proc. Dublin Micr. Club, iii., 1878): Dublin Bay (Haddon '86): Killiney (Duerden '97).

Lafoëa abietina (Sars). *Salacia abietina* (Sars).

. ii.,

- ii. Dublin coast, coll. A. H. Hassall and D. St. J. Grant (Mackintosh '78).

Lafoëa serpens (Hassall). *Filillum serpens* (Hassall). *Halía reticulata*, Wyville Thomson.

i., . iii., iv., v., .

- i. North of Ireland, coll. Wyville Thomson (Hyndman '58): Belfast Lough (Hurst in the Irish Naturalist, v., 1896).
 iii. Thirteen miles south-west of Galley Head; eleven miles south of Glandore, coll. R. I. A. Exp. 1886 and 1888 (Duerden '93).
 iv. Off Galley Head; Glandore Harbour; Berehaven, coll. R. I. A. Exp. 1886 and 1888 (Duerden '93).
 v. West coast, coll. S. Y. "Argo" Cruise (Herdman '91).

The forms described under the name *Coppinia* have been proved by Levinsen to be the gonosomes of various *Lafoëa* species. "*C. arcta*" has been recorded from provinces i., ii., iii. and v., and is probably the *Coppinia* stage of *Lafoëa serpens*.

Gonothyræa loveni, Allman.

i., ii., iii., . v., .

- i. Carrickfergus (Hincks '60): Port Stewart, coll. R.D.S. (Dublin Mus.).
- ii. Dublin Bay (Haddon '86): Malahide, Killiney Bay, Bray Head (Dublin Mus.).
- iii. Monkstown, co. Cork, coll. Wyville Thomson (Hincks '60).
- v. Lough Atalia, coll. R. D. S. (Duerden '97): Roundstone (Dublin Mus.).

Gonothyræa gracilis (Sars).

. . . . v., .

- v. Birturbuy Bay, dredged by G. S. Brady (Hincks '66).

Gonothyræa (?) hyalina, Hincks.

i., ii.,

- i. Port Stewart, on *Hydrallmania falcata* (Duerden '97).
- ii. Between Laytown and the Boyne (Duerden '94): Dublin Bay (Dublin Mus.).

Campanulina turrita, Hincks.

i., ii., . iv., v., vi.

- i. Holywood, Belfast Lough, coll. Wyville Thomson (Hincks '68).
- ii. Rush (Duerden '94A): Dalkey (Duerden '95).
- iv. Bantry Bay; Dursey Island (Duerden '95).
- v. Blacksod Bay, coll. R.D.S.; Roundstone (Duerden '95).
- vi. Bundoran (Duerden '95).

This species seems only to have been obtained from Irish waters.

Campanulina panicula, G. O. Sars.

. . . . v., .

- v. 40 miles off Achill Head, 220 fms., coll. R.D.S. (Duerden '95).

Calycella syringa (Linn.).

i., ii., iii., iv., v., .

Common round the coast; but apparently not recorded from vi.

***Calycella fastigiata* (Alder).**

. . iii., iv., v., .

iii. 13 miles south-west of Galley Head, 43 fms.; 11 miles south of Glandore Harbour, coll. R.I.A. Exp. 1886 and 1888 (Duerden '93): Scullane Bay and Barlogue, coll. R.I.A. Exp. 1886 (Dublin Mus.).

iv. Off the south-west of Ireland, 50 fms.; Dursey Sound, coll. R.I.A. Exp. 1886 and 1888 (Duerden '93): Ballinskelligs Bay (Duerden '97).

v. Roundstone (Dublin Mus.).

"This rare hydroid appears to be widely distributed on the west coast of Ireland, almost as much so as *C. syringa*" (Duerden '93).

***Calycella pygmæa* (Alder). *Lafoëa pygmæa*, Alder.**

. ii., . . v., .

ii. Dublin Bay (Haddon '86).

v. Roundstone (Duerden '97).

***Opercularella lacerata* (Johnston). *Laomedæa lacerata*, Hincks.**

i.,

i. North of Ireland, coll. Wyville Thomson (Hyndman '58).

***Cuspidella humilis* (Hincks).**

. . . . v., .

v. Reported from Connemara (Hincks '66).

***Cuspidella grandis*, Hincks.**

. . iii., . v., .

iii. Ballycotton, 30 fms., coll. R.D.S. (Duerden '97).

v. Birturbuy Bay, coll. G. S. Brady (Hincks '68).

***Cuspidella costata*, Hincks.**

. . . iv., . .

iv. Berehaven, coll. R.I.A. Exp. 1885 (Duerden '93).

Family—SERTULARIIDÆ.

***Sertularella polyzonias* (Linn.). *Sertularia polyzonias*, Linn.**

Sertularia pinnata, Templeton.

i., ii., iii., iv., v., .

A very common species; but apparently not yet recorded from vi.

Sertularella gayi (Lamouroux). *Sertularia polyzonias*, var. β , Johnston.

i., ii., . iv., v., .

- i. Donaghadee, coll. J. Gilles (Templeton '36).
- ii. Dublin Bay, in Trinity College collection (Hincks '60).
- iv. South-west Ireland (Bourne '90).
- v. Birturbuy Bay, coll. G. S. Brady (Hincks '68).

Sertularella rugosa (Linn.). *Sertularia rugosa*, Linn. *Clytia rugosa*, Lamouroux.

i., ii., iii., . . vi.

- i. Off Larne, 70-90 fms. (Hyndman '59): Magilligan, coll. G. C. Hyndman (Thompson '56).
- ii. Kingstown (Hassall '41): Lambay (Dublin Mus.).
- iii. 13 miles south-west of Galley Head, 43 fms., coll. R.I.A. Exp. 1886 (Duerden '93).
- vi. Bundoran, Donegal Bay (Duerden '97).

Sertularella tenella, Alder.

. . . iv., . .

- iv. South-west of Ireland, 55 fms., coll. "Flying Fox" Exp. 1889 (Kirkpatrick '89).

Dynamena pumila (Linn.). *Sertularia pumila*, Linn.

i., ii., iii., iv., v. .

One of our commonest species; but apparently not yet recorded from vi.

Dynamena operculata (Linn.). *Sertularia operculata*, Linn.

i., ii., iii., iv., v., vi.

Generally distributed; and common round the coast.

Dynamena gracilis (Hassall). *Sertularia gracilis*, Hassall.

. ii., iii., . v., .

- ii. Between Laytown and the Boyne (Duerden '94).
- iii. Cork Harbour, coll. A. C. Haddon (Duerden '97).
- v. Birturbuy Bay; Blacksod Bay; Casheen Bay, coll. R.D.S. (Duerden '97): Roundstone (Dublin Mus.).

Dynamena rosacea (Linn.). *Sertularia rosacea*, Linn. *Diphasia rosacea*, Agassiz.

i., ii., iii., iv., . vi.

Generally distributed round the coast.

Dynamena attenuata (Hincks). *Diphasia attenuata*, Hincks.

. ii., iii., iv., . .

ii. Dublin Bay (Haddon '86): between Laytown and the Boyne (Duerden '94): Lambay (Dublin Mus.): Howth, (Dublin Mus.).

iii. 13 miles south-west of Galley Head, 43 fms., coll. R.I.A. Exp. 1886 (Duerden '93).

iv. Bantry Bay (Dublin Mus.).

Dynamena tamarisca (Linn.). *Sertularia tamarisca*, Linn. *Sea Tamarisk*, Ellis. *Diphasia tamarisca*, Agassiz.

i., ii., iii., . . .

i. Belfast Lough, coll. J. Templeton; Ballycastle, coll. J. L. Drummond (Johnston '47): off Larne, 70-90 fms. (Hyndman '59).

ii. Dalkey Island, from deep-water (Ellis 1755): Blackrock (Hassall '41): Howth and Portmarnock (Thompson '56).

iii. 13 miles south-west of Galley Head, coll. R.I.A. Exp. 1886 (Duerden '93): south-south-west of Barlogue, coll. R.I.A. Exp. 1886 (Dublin Mus.).

Dynamena fallax (Johnston). *Diphasia fallax*, Agassiz.

. ii., iii., . . .

ii. Dalkey and Howth (Irvine '54).

iii. 13 miles south-west of Galley Head, 43 fms., coll. R.I.A. Exp. 1886 (Duerden '93): south-south-west of Barlogue, coll. R.I.A. Exp. 1886 (Dublin Mus.).

Sertularia pinaster, Ellis and Solander. *Diphasia pinaster*, Agassiz. *Sertularia margarita*, Hassall.

i., ii., . iv., . .

i. Belfast Lough (Hyndman '58): Giant's Causeway (Hassall '41b).

ii. Howth (Hassall '41b): Dublin Bay, coll. Dr. Harvey (Johnston '47): Lambay (Dublin Mus.).

iv. 52° 25', 11° 40', 90 fms., coll. "Porcupine" Exp. (Allman '74a): South-west coast (Bourne '90).

Sertularia alata (Hincks). *Diphasia alata*, Hincks.

. . iii. . . .

- iii. South-west of Galley Head, 43 fms., rare; coll. R.I.A. Exp. 1886 (Duerden '93): Scullane Bay, coll. R.I.A. Exp. 1886 (Dublin Mus.).

Sertularia filicula, Ellis and Solander.

i., ii., . . v., .

- i. Ballycastle, coll. R. Brown; Bangor, Co. Down (Thompson '40): Giant's Causeway (Hassall '41b): Belfast Lough, coll. R. Patterson: Magilligan, coll. G. C. Hyndman; dredged off the Gobbins (Thompson '56).
- ii. Dalkey (Thompson '56): Hassall ('41) records this species for Dublin Bay, but later corrects this statement ('41b). Portmarnock (Macalister in Proc. Nat. Hist. Soc. Dublin, iv., 1865).
- v. Clew Bay (Thompson '56).

Sertularia abietina, Linn.

i., ii., iii., iv., v., vi.

Common round the coast.

Sertularia argentea, Ellis and Solander.

i., ii., iii., iv., v., vi.

Common round the coast.

Sertularia cupressina, Linn. *Sea Fir*, Ellis.

i., ii., iii., iv., v., vi.

Common round the coast: Ellis (1755) is the first to give an Irish locality for this species.

Hydrallmania falcata (Linn.). *Plumularia falcata*, Linn.

i., ii., iii., iv., v., vi.

Common round the coast.

Thuiaria thuiæ (Linn.).

i., ii.,

- i. Derry coast, between Moville and Greencastle (Thompson '44).
- ii. Dublin Bay: a single specimen in the Trinity College collection (Mackintosh '78).

Thuiaria articulata (Pallas). *Sea Splenwort* or *Polypody*, Ellis.
Sertularia lonchitis, Ellis and Solander.

i., ii.,

- i. Donaghadee, coll. W. Thompson (Johnston '47): Belfast Lough; coast of Down (Hyndman '58).
- ii. Dublin Bay (Ellis 1755): off Howth (Hassall '41B).

Family—**PLUMULARIIDÆ.**

Antennularia antennina (Linn.). *Antennularia indivisa*, Lamarck.

i., ii., iii., iv., v., vi.

Generally distributed round the coast.

Antennularia ramosa (Lamarck). *Antennularia arborescens*, Hassall.

i., ii., iii., iv., v., .

Generally distributed; but apparently not yet recorded from vi.

Aglaophenia pluma (Linn.). *Plumularia cristata*, Lamarck.
The Podded Coralline, Ellis.

i., ii., iii., iv., v., vi.

This species occurs all round the coast.

Aglaophenia tubulifera (Hincks).

. . . iv., v., .

- iv. Smerwick Harbour (Dublin Mus.).
- v. West coast, S. Y. "Argo" Cruise (Herdman '91): Blacksod Bay, on *Stenorhynchus*, coll. R. D. S. (Duerden '97).

Aglaophenia myriophyllum (Linn.). *Sertularia myriophyllum*, Linn.
Plumularia myriophyllum, Lamarck. *Pheasant's-tail Coralline*, Ellis.

i., ii., iii., iv., . .

- i. Ballycastle, coll. R. Brown (Templeton '36): Belfast Lough, coll. W. M'Calla (Hincks '68).
- ii. Dublin Bay (Ellis 1755; Templeton '36): Howth and Lambay (Hassall '41B).
- iii. Youghal, coll. Miss Ball (Johnston '47): Ballycotton, 30 fms., coll. R.D.S. (Dublin Mus.).
- iv. South-west of the Great Skellig, 79 fms., coll. R. I. A. Exp. 1885 (Haddon '86A, and Duerden '93): South-west of Ireland (Bourne '90).

Aglaophenia pennatula (Ellis and Solander). *Sertularia pennatula*,
Ellis and Solander.

. ii., iii., . v., .

ii. Dublin Bay (Irvine '54).

iii. Youghal, coll. Miss Ball (Thompson '40): Ballycotton, coll. Miss
Gaggin (Thompson '56).

v. Near Roundstone, coll. W. M'Calla (Johnston '47).

Plumularia pinnata (Linn.).

i., ii., iii., iv., v., vi.

Reported from all the provinces; common.

Plumularia setacea (Ellis).

i., ii., iii., iv., v., vi.

Generally distributed round the coast.

Plumularia catharina, Johnston.

i., ii., iii., . v., .

i. Belfast Lough (Hyndman '58).

ii. Howth and Lambay (Hassall '41b): Dublin Bay (Hincks '68):
Dalkey (Mackintosh '78).

iii. 13 miles south-west of Galley Head, coll. R.I.A. Exp. 1886
(Duerden '93): Ballycotton, 30 fms., coll. R.D.S. (Duerden '97).

v. Aran Islands, coll. Mr. Barlee (Hincks '68).

Plumularia echinulata, Lamarck.

. ii., iii., iv., v., vi.

ii. Dublin (Hincks '60): Monkstown (Grant, in Journ. Proc. Dublin
Micr. Club, 1877): Rush (Duerden '94a).

iii. Cork Harbour (Dublin Mus.).

iv. Bantry Bay, coll. R.D.S. (Duerden '97).

v. Roundstone (Duerden '97).

vi. Bundoran (Dublin Mus.).

Plumularia similis, Hincks.

i., ii., . iv., . .

i. Donaghadee, coll. G. C. Hyndman (Hincks '68).

ii. Between Laytown and the Boyne (Duerden '94): Malahide
(Dublin Mus.).

iv. Berehaven (Duerden '97).

Plumularia halecioides, Alder.

. . . iv., v., .

- iv. Berehaven, 7 fms.; a rather rare species, coll. R.I.A Exp. 1885 (Duerden '93).
- v. West coast, S. Y. "Argo" Cruise (Herdman '91).

Plumularia frutescens (Ellis and Solander).

i., ii., iii., . . .

- i. One specimen dredged off the Gobbins (Hyndman '58).
- ii. Dublin; a single specimen found (Hassall '41B).
- iii. Youghal, coll. Miss Ball (Johnston '47).

ANTHOMEDUSÆ.**Family—CODONIDÆ.****Sarsia tubulosa (Forbes). *Oceania ? tubulosa*, Sars.**

i., ii., . iv., v., .

- i. Belfast Lough (Thompson '40): Larne; Bangor, co. Down, coll. R. Patterson (Forbes '48).
- ii. Kingstown (Greene '57): Dublin Bay (Haddon '86).
- iv. Valencia Harbour (Browne 1900).
- v. Ballynakill Harbour, coll. R.D.S. (Holt '92).

Sarsia prolifera, Forbes.

. . . iv., . .

- iv. Valencia Harbour (Browne 1900).

Sarsia gemmifera, Forbes.

. . . iv., . .

- iv. Valencia Harbour (Browne 1900).

Sarsia pattersoni, Haddon.

i., ii.,

- i. Larne, coll. R. Patterson (Forbes '48).
- ii. Dublin Bay (Haddon '86 and '86B).

Professor Haddon proposed the above as a provisional name for the species which Forbes describes in his "British Naked-eye Medusæ," p. 56, and which was found by himself in Dublin Bay.

Ectopleura dumortierii (Van Beneden).

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Dipurena halterata (Forbes).

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Dipurena ophiogaster, Haeckel. *Sarsia strangulata*, Allman.

. . . iv., . .

iv. South-west of Ireland (Allman '71-'72): Valencia Harbour (Browne 1900).

Corymorpha nutans, M. Sars. *Steenstrupia rubra*, Forbes. *Steenstrupia favicola*, Forbes.

. ii., . iv., . .

ii. Kingstown (Haddon '86).

iv. Valencia Harbour (Browne '96 and '96A; Gamble '96).

Euphyssa aurata, Forbes.

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Hybocodon prolifer, Agassiz. *Diplonema islandica*, Greene. *Steenstrupia owenii*, Greene.

. ii., . iv., . .

ii. Dublin coast (Greene '57).

iv. Valencia Harbour (Browne '96 and '96A).

Family—TIARIDÆ.

Amphinema dinema (Péron and Lesueur).

. . . iv., . . .

iv. Valencia Harbour (Browne, 1900).

Tiara octona, Forbes. *Ossania turrita*, Forbes.

. ii.,

ii. Dublin Bay (Haddon '86).

Tiara pileata (Forsk.). *Oceania episcopalis*, Forbes.

? i., . . iv., . .

? i. Bangor, county Down, coll. R. Patterson (Forbes '48).

iv. Valencia Harbour (Browne '96A and 1900).

Turris constricta, Patterson.

i.,

i. Strangford Lough, found by Mrs. Ward (Patterson '59).

This does not seem to be a recognised species.

Family—**MARGELIDÆ.****Podocoryne carnea**, Sars. *Dysmorphosa carnea*, Haeckel.

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Cytæandra areolata (Alder).

. . . iv., . .

iv. Valencia Harbour (Browne '96A and '97A).

Lizzia blondina, Forbes.

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Margelis principis, Steenstrup. *Margelis britannica*, Browne.

. ii., . iv., . .

ii. Kingstown and Dalkey (Haddon '86).

iv. Valencia Harbour (Browne '96A, and 1900).

Margelis ramosa (L. Agassiz). *Bougainvillia britannica*, Forbes.
Hippocrene britannica, Forbes.

i., ii.,

i. Ballycastle and Portrush (Forbes '41): Strangford Lough, coll.
R. Patterson (Forbes '48).

ii. Dublin coast (Greene '57).

Margelis zygonema, Haeckel. ? *Bougainvillia dinema*, Greene.

. ii., . . .

ii. Dublin coast (Greene '57, sub *Bougainvillia dinema*): Ireland's Eye (Haeckel '79).

Margelis autumnalis (Hartlaub).

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Margelis bella (Hartlaub).

. . . iv., . .

iv. Valencia Harpour (Browne 1900).

Margelis pyramidata (Forbes and Goodsir).

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Margellium octopunctatum (Sars).

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Family—CLADONEMIDÆ.

Clavatella prolifera, Hincks.

. . . iv., . .

iv. Valencia (Gamble '96; Browne '97 and 1900; Beaumont 1900).

Cladonema radiatum, Dujardin.

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Lar sabellarum, Gosse. *Willisia stellata*, Forbes.

. . . iv., . .

iv. Berehaven (Wright and Greene '59): Valencia (Browne '96 and '96A).

LEPTOMEDUSÆ.

Family—THAUMANTIDÆ.

Thaumantias hemisphaerica (Gronovius). *Medusa hemisphaerica*, Müller. *Thaumantias pileata*, Forbes. *Thaumantias lineata*, Forbes. *Thaumantias neglecta*, Greene. *Thaumantias typica*, Greene. *Thaumantias inconspicua*, Hincks.

i., ii., . . .

i. Belfast Lough ; Larne, coll. R. Patterson (Thompson '40) : Portrush (Forbes '41).

ii. Kingstown Harbour (Greene '57 ; Haddon '86).

Laodice calcarata, Agassiz.

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Laodice cruciata (Forskål). *Cosmetira pilosella*, Forbes.

. . iii., . . .

iii. Ballycotton Bay, coll. R.I.A. Exp. 1885 and 1886 (Haddon '86 and '88).

Melicertidium octocostatum (Sars). *Melicertum campanulatum*, Ehrenberg. *Stomobrachium octocostatum*, Forbes.

. i., ii., . iv., . vi.

i. Portrush ; Ballycastle (Thompson '44).

ii. Dublin coast (Greene '57).

iv. Valencia Harbour (Browne 1900).

vi. North-west coast (Forbes '48).

Family—CANŊOTIDÆ.

Dipleurosoma typicum (Boeck). *Ametrangia hemisphaerica*, Allman.

. ii., iii., iv., . .

ii. Kingstown (Haddon '86).

iii. South coast of Ireland (Allman '74).

iv. Valencia Harbour (Browne 1900).

Family—EUCOFIDÆ.

Obelia nigra, Browne.

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Obelia lucifera (Haeckel). *Thaumantias lucifera*, Forbes.

. ii.,

ii. Kingstown Harbour (Greene '57).

Euchilota pilosella (Forbes).

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Agastra caliculata (Hincks).

. . . iv., . .

iv. Valencia Harbour (Browne '97A, sub *A. Leptomedusa* gen.? sp.?; and 1900).

Eutima insignis (Keferstein).

. . . iv., . .

iv. Valencia Harbour (Browne '96 and '96A).

Saphenia mirabilis (Wright).

. . . iv., . .

iv. Valencia Harbour (Browne '96A and 1900).

Octorchis gegenbauri, Haeckel.

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

Irene viridula (Lamarck). *Geryonopsis delicatula*, Forbes.

. ii.,

ii. Kingstown Harbour (Greene '57).

Phialidium variabile (Claus). *Thaumantias globosa*, Forbes.

. ii., iii., . v., .

ii. Dublin Bay (Haddon '86).

iii., v. South and west coasts (Wright and Greene '59).

Phialidium cymbaloideum (Van Beneden).

. . . iv., v., .

iv. Valencia Harbour (Browne '96 and '96A).

v. Ballynakill, Galway (Dublin Mus.).

Phialidium temporarium (Browne).

. . . iv., . . .

- iv. Valencia Harbour (Browne '96 and '96A).

Tiaropsis multicirrata (Sars). *Thaumantias pattersoni*, Greene.

i., . . iv., . . .

- i. Belfast Lough (Greene '57).

- iv. Valencia Harbour (Browne '96 and '96A).

Epenthesia cymbaloidea (Slabber). *Thaumantias thompsoni*, Forbes.

. . ii., iii., . v., .

- ii. Dublin coast (Greene '57).

- iii. South coast (Thompson '44A; Wright and Greene '59).

- v. Clifden Bay; Roundstone Bay (Forbes '41 and '48).

Browne ('96) says of this species that *Phialidium buskianum*, Gosse, closely resembles the figure given by Forbes of *Thaumantias thompsoni*.

Family—**ÆQUORIDÆ**.**Polycanna forskalea** (Forbes).

. . . iv., . . .

- iv. Valencia Harbour (Browne '97A and 1900).

TRACHOMEDUSÆ.Family—**PETASIDÆ**.**Gossea circinata**, Haeckel.

. . . iv., . . .

- iv. Valencia Harbour, very rare (Browne 1900).

Family—**AGLAURIDÆ**.**Aglantha rosea** (Forbes).

. . . iv., . . .

- iv. Valencia Harbour (Browne '96A and '97A).

Aglisera invertens (Haeckel.) *Circe invertens*, Allman.

. . iii., . . .

- iii. South coast of Ireland (Allman '74).

Family—GERYONIDÆ.

Liriantha appendiculata (Forbes).

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

NARCOMEDUSÆ.

Family—SOLMARIDÆ.

Solmaris corona (Keferstein and Ehlers).

. . . iv., . .

iv. Valencia Harbour (Browne 1900).

SIPHONOPHORA.

Family—VELELLIDÆ.

Velella spirans (Forskål). *Velella limbosa*, Lamarck.

? i., ? ii., ? iii., iv., . vi.

ii., ii., iii. Thompson ('56) records specimens from Larne, Portrush, and Youghal, which he doubtfully refers to *V. limbosa*.Dalkey, found by Dr. Tufnell. ? = *V. spirans* (Haddon '86).

iv. Valencia Harbour (Browne 1900).

vi. Lough Swilly (Dublin Mus.): ? Ballyshannon and Bundoran (Thompson '56).

Vellela are found washed ashore, especially on the north and west coasts; but the species is not often determined, as the specimens are usually injured. *Vellela* are reported from Lough Swilly (Harte in the Irish Naturalist, 1892): Dingle Bay (Andrews '70A), and Portrush (R. Ll. Praeger).

Velella mutica, Lamarck.

i., . iii., . . .

i. Magilligan, very common (Templeton '36): Groomsport, coll.

Dr. M'Gee; Portrush (Thompson '56).

iii. South coast, coll. Mrs. Mant (Thompson '56).

Velella submarginata, Thompson. *Velella emarginata*, Thompson.

. . iii., . . .

iii. Courtmacsherry Harbour, coll. G. J. Allman (Thompson '44 and '44A).

This species is not recognised by Hæckel.

Family—MONOPHYIDÆ.

Muggiæa atlantica, Cunningham.

. . . iv., . . .

iv. Valencia Harbour (Browne 1900).

Muggiæa kochii, Will.

. . . ? iv., . . .

? iv. South-west of Ireland (Bourne '90).

Römer, in his "Siphonophoren," 1901, identifies the species described by Bourne with *M. atlantica*, Cunningham.

Family—AGALMIDÆ.

Cupulita sarsii, Haeckel. *Agalmopsis elegans*, Sars, in part.

. ii., . iv., . . .

ii. Kingstown Harbour (sub *Agalmopsis elegans*; Greene '57).

iv. Valencia Harbour (Browne 1900).

Agalmopsis sarsii, Kölliker.

. ? ii.,

? ii. Dalkey Sound (Haddon '86).

Family—DIPHYIDÆ.

Diphyes elongata, Hyndman.

i., ? vi.

i. Belfast Lough and the Giant's Causeway (Hyndman '41).

? vi. "Several *Diphyida* (apparently *D. elongata*) collected at Bundoran by Mrs. Hancock" (Thompson '44A).

Haeckel, in his "Report on the Siphonophora of the Challenger Expedition," 1888, regards this as a doubtful species; Römer, in his "Siphonophoren," 1901, identifies it with *D. bipartata*, Costa.

Family—FORSKALIDÆ.

Forskalia contorta, Leuckart. *Stephanomia contorta*, Milne-Edwards.? *Agalma gettyana*, Hyndman.

? i., ii.,

? i. Belfast Lough, coll. E. Getty (Melville '56).

ii. Kingstown Harbour, coll. J. R. Greene (Melville '56).

Family—ANTHOPHYSIDÆ.

Athorybia ocellata, Haeckel.

. . . ? iv., . . .

?iv. South-west of Ireland. A specimen was obtained which was "a near ally of, if not identical with, the *Athorybia ocellata* of Haeckel" (Bourne '90).

Family—PHYSALIIDÆ.

Physalia pelagica, Eschscholtz.

. . iii., . . .

iii. Near Ardmore, Waterford, coll. Miss Ball (Thompson '35).

SCYPHOMEDUSÆ.

STAUROMEDUSÆ.

Family.—TETHEERIDÆ.

Depastrum cyathiformis, Gosse.

. ii., . . .

ii. Dalkey Sound (G. Y. and A. F. Dixon '93).

Family—LUCERNARIIDÆ.

Halielystus auricula (Rathke). *Lucernaria auricula*, Clark.

. i., . iii., iv., . .

i. Ballycastle and Dunluce Castle (Templeton '36): Carnlough, co. Antrim (Thompson '56): Portrush and the Giant's Causeway (Wright '59).

iii. Cork (Wright '59).

iv. Kerry coast (Wright '59): Valencia (Gamble '96; Beaumont 1900).

Lucernaria quadricornis, O. F. Müller. *Lucernaria fascicularis*, Fleming.

i., . . iv., . .

i. Donaghadee (Templeton '36).

iv. Ventry Bay (Wright '59).

Lucernaria campanulata, Lamouroux.

i., ii., . iv., v., .

- i. Portrush (Greene '58A).
- ii. Bray, coll. R. Ball (Thompson '56).
- iv. Kerry (Wright '59): Valencia Harbour (Beaumont 1900).
- v. Miltown Malbay, coll. Prof. Harvey (Thompson '56).

Greene ('58c) records a young specimen (taken at Trabulgan, co. Cork) under the name *L. typica*, Greene. He considers that the species *auricula*, *campanulata*, and *fascicularis* should be united under this name.

Hydra tuba; Dublin Bay and Galway Bay (Wright '59); ? = a young Lucernarian.

DISCOMEDUSÆ.

Family—PELAGIDÆ.

Pelagia perla (Slabber).

. . . iv., . .

- iv. South-west of Ireland (Bourne '90): Valencia Harbour, Browne (Browne 1900; Delap 1900).

Chrysaora isosceles (Linn.). *Chrysaora hyoscella*, Linn

. ii., . iv., . .

- ii. Dublin coast (Greene '57).
- iv. Berehaven, coll. R.I.A. Exp. 1885 (Haddon '86A): Valencia 1901).

Family—CYANEIDÆ.

Cyanea capillata (Linn.).

i., ii., . . v., .

- i. Holywood Warren, Belfast Lough (Thompson '56).
- ii. Kingstown Harbour (Greene '57).
- v. West coast (Thompson '44A).

Cyanea lamareckii, Péron and Lesueur.

i., ii., . iv., v., .

- i. Holywood Warren (Thompson '56).
- ii. Kingstown Harbour (Greene '57).
- iv. Valencia Harbour (Browne 1900).
- v. Galway coast, coll. R. Ball and W. Thompson (Thompson '44).

Family—ULMARIDÆ.

Aurelia aurita (Linn.). *Aurelia campanulata*, Forbes

i., ii., . iv., v., vi.

- i. North coast (Templeton '36): Bangor, coll. G. C. Hyndman and W. Thompson; Holywood Warren (Thompson '56).
- ii. Kingstown Harbour (Greene '57): Dalkey (Haddon '86).
- iv. South of Great Skellig, coll. R.I.A. Exp. 1885 (Haddon '86A): Valencia Harbour (Browne 1900).
- v. Blacksod Bay (Dublin Mus.).
- vi. Donegal Bay, coll. R.D.S. (Holt '92).

Family—PILEMIDÆ.

Pilema octopus (Linn.). *Medusa undulata*, Pennant. *Rhizostoma cuvieri*, Péron and Lesueur. *Rhizostoma octopus*, Oken. *Rhizostoma pulmo*, Forbes. *Cassiopæa lunulata*, Fleming.

i., ii., iii., iv., ? v., .

- i. Belfast Lough, coll. E. Getty (Thompson '40).
- ii. Kingstown Harbour (Greene '57; Haddon '86): Portmarnock (Baily '65): Greystones (Mackintosh '84).
- iii. Youghal, coll. R. Ball (Thompson '56).
- iv. Valencia; between Bray Head and Puffin Island, coll. F. W. Gamble (Browne 1900).
- ? v. West coast (Thompson '44A).

CTENOPHORA.

Family—PLEUROBRACHIIDÆ.

Pleurobrachia pileus, Fabricius. *Beros pileus*, Fleming. *Cydlippe pileus*, Eschscholtz. *Cydlippe pomiformis*, Patterson. ? *Cydlippe lagena*, Forbes.

i., ii., iii., iv., v., .

- i. Giant's Causeway, coll. G. C. Hyndman: Larne; Belfast and Strangford Loughs (Patterson '43).
- ii. Lambay, coll. W. Thompson and R. Ball; Kingstown Harbour (Patterson '43): Greystones (Mackintosh '84).
- iii. Youghal, coll. R. Ball (Patterson '43): south coast (Wright and Greene '59): Ballycotton Bay, coll. R.I.A. Exp. 1886 (Haddon '88).
- iv. South-west of Ireland, coll. R.I.A. Exp. 1885 (Haddon '86A): Valencia Harbour (Browne 1900).
- v. West coast (Wright and Greene '59).

Family—**BOLINIDÆ.**

Bolina norvegica (Sars). *Mnemia norvegica*, Sars. *Bolina hibernica*, Patterson. *Alcinoe hibernica*, Thompson.

i., ii., iii., iv., v., .

- i. Larne, Bangor, and Strangford Lough (Patterson '43 and '43A).
- ii. Lambay (Patterson '43 and '43A): Kingstown Harbour (Greene '57).
- iii. Youghal (Patterson '43 and '43A): south coast (Wright and Greene '59).
- iv. South-west coast, coll. R.I.A. Exp. 1885 (Haddon '86A): Valencia Harbour, ?sp. (Browne 1900).
- v. West coast (Wright and Greene '59).

Family—**MNEMIIDÆ.**

Alcinoe smithii, Forbes.

i.,

- i. North coast (Forbes and Goodsir '40).

Family—**BEROIDÆ.**

Beroe ovata, Eschscholtz.

. ii., iii., iv. v., .

- ii. Kingstown Harbour (Greene '57).
- iii. South coast (Wright and Greene '59).
- vi. South-west coast, coll. R.I.A. Exp. 1885 (Haddon '86A): Valencia Harbour (Browne 1900).
- v. West coast (Wright and Greene '59).

Beroe cucumis, Fabricius.

i., ii.,

- i. Bangor, co. Down (Thompson '56).
- ii. Dublin coast (Greene '57).

ANTHOZOA.**ALCYONARIA.**Family—**HAIMEIDÆ.**

Hartea elegans, E. P. Wright.

. . . . vi.

- vi. Rathmullen, co. Donegal; found by W. Harte (Wright '65).

Family—**CORNULARIIDÆ.**

Sarcodictyon catenata, Forbes.

i., . iii., . v., .

- i. Antrim coast (Thompson '56; Hyndman '59).
- iii. Youghal, coll. R. Ball (Thompson '44 and '44A, sub *Zoanthus couchii*).
- v. Roundstone, coll. W. M'Calla (Thompson '56).

Family—**ALCYONIIDÆ.**

Alcyonium digitatum, Linn.

i., ii., . iv., v., vi.

Common round the coast.

Alcyonium glomeratum, Hassall. *Alcyonidium rubrum*, Hassall.

. ii., . iv., . .

- ii. Dublin Bay (Hassall '41): Portmarnock (Baily '65).
- iv. South-west of Ireland (Bourne '90).

Family—**ISIDÆ.**

Acanella arbuscula, Johnston.

. . . iv., . .

- iv. South-west of Ireland, 750 fms., coll. R.I.A. Exp. 1868 (Dublin Mus.).

Family—**GORGONIIDÆ.**

Gorgonia verrucosa, Pallas.

. ii., iii., . v., vi.

- ii. Lambay, coll. R. Ball (Thompson '49).
- iii. Nymph Bank and Toe Head, coll. R.I.A. Exp. 1886 (Haddon '88).
- v. Galway Bay, 24 fms., coll. R.D.S. (Holt '92).
- vi. Donegal Bay (Dublin Mus.).

Gorgonia anceps, Pallas. *Keratophyton dichotomum*,
Seawillow, Ellis.

A doubtful species; recorded by Ellis (1755) for the Irish coast.

Family—VIRGULARIIDÆ.

Virgularia mirabilis, Lamarck.

i., . . iv., . .

- i. North coast (Thompson '44A): Belfast Lough and Bungor (Thompson, '56): Carrickfergus (Dublin Mus.).
- iv. Ballybunion (Andrews '70): Kenmare River, 40 fms.; Bantry Bay, 36 fms., coll. R.I.A. Exp. 1885 (Haddon '86A): Glengarriff, S. Y. "Argo" Cruise (Herdman '91).

Svava glacialis, var. **alba** (Koren and Danielssen).

. . . iv., . .

- iv. "Porcupine" Exp. 1869. 51° 51'—11° 50', 100 fms. (Marshall and Fowler '88).

ZOANTHARIA.

Family—CERIANTHIDÆ.

Cerianthus lloydii, Gosse.

. . . iv., . .

- iv. Smerwick Harbour (*C. ? lloydii*, Andrews '70); Valencia (Gamble '96).

Arachnactis bournei, Fowler. *Arachnactis albida*, Sars (in part).
Arachnactis lloydii, Van Beneden.

. . . iv., . .

- iv. South-west of Ireland (Bourne '90, sub *A. albida*): Valencia Harbour (Browne 1900; see also G. H. Fowler in Proc. Zool. Soc. 1897, p. 805).

Van Beneden ('91 and '97) refers all Bourne's Irish specimens to the species *lloydii*, and considers that they are the larvæ of *Cerianthus lloydii*, Gosse.

Arachnactis albida, Sars (in part).

. . . iv., . .

- iv. Valencia Harbour (Browne 1900; see also Fowler in Proc. Zool. Soc. 1897, p. 803).

Family—ZOANTHIDÆ.

Epizoanthus incrustatus (Düben and Koren). *Epizoanthus papillosus* (Johnston). *Polythoa incrustata*, Bourne.

. . iii., iv., v., vi.

iii. Nymph Bank, co. Cork, 50 fms., coll. R. I. A. Exp. 1886 (Haddon '88).

iv. Forty miles south-west of Cape Clear, 80-90 fms., coll. R. I. A. Exp. 1885 (Haddon '86A): south-west of Ireland, 70 fms. (Bourne '90).

v. Clew Bay; Aran, co. Galway, 33-40 fms. (Haddon and Shackleton '91): Inishmore, coll. R. D. S. (Holt '92).

vi. Donegal Bay, 33-36 fms. (Haddon and Shackleton '91).

Epizoanthus paguriphilus, Verrill.

. . . iv., v., .

iv. South-west Ireland, 400 fms. (Bourne '90): 71 miles west by south of the Fastnet, 315 fms. (Haddon and Shackleton '91).

v. Fifty-four miles off Achill Head, 500 fms. (Haddon and Shackleton '91).

Epizoanthus couchii (Johnston). *Zoanthus couchii*, Johnston.

i., . iii., iv., . .

i. Strangford Lough, 15-20 fms. (Johnston in "A History of British Sponges," 1842, pp. 190, 251; plate xvi., figs. 6, 7, sub *Dysidea* ? *papillosa*).

iii. Off Glandore, 40 fms. (Haddon and Shackleton '91).

iv. Berehaven, 10 fms., coll. R. I. A. Exp. 1885 (Haddon '86A, sub *Polythoa arenacea* (?) D. Ch.; Haddon and Shackleton '91): 30 miles off Cape Clear, 80 fms. (Haddon and Shackleton '91): Valencia (Gamble '96).

Epizoanthus wrightii, Haddon and Shackleton.

. ii.,

ii. Dalkey Sound (G. Y. and A. F. Dixon '91, sub *Epizoanthus* sp.; Haddon and Shackleton '91).

Parazoanthus anguicomus (Norman).

. . . iv., v., .

- iv. Fortymiles south-west of Ireland; Berehaven, 10 fms., coll. R.I.A. Exp. 1885 and 1886 (Haddon '86a and '88, sub *Palythoa* sp.): off the Skelligs, 80 fms., (Haddon and Shackleton '91).
- v. Off Galway Bay, 100-159 fms., coll. "Porcupine" Exp., 1869; off Achill, 126 fms. (Haddon and Shackleton '91).

Parazoanthus dixonii, Haddon and Shackleton.

. . . iv., . .

- iv. Five to eight miles west of Great Skellig, 70-80 fms. (Haddon and Shackleton '91).

Family—EDWARDSIIDÆ.

Edwardsia beaumontii, Quatrefages.

. . . iv., . .

- iv. Berehaven, 10 fms., coll. R.I.A. Exp. 1886 (Haddon '88).

Edwardsia timida, Quatrefages.

. ii.,

- ii. Malahide, at extreme low water (G. Y. Dixon '86).

Edwardsia tecta, Haddon.

. . iii., iv., . .

- iii. Nymph Bank, 52 fms.; 28 miles south-west of Ballycotton, coll. R.I.A. Exp. 1886 (Haddon '88 and '89).
- iv. Five to eight miles west of the Great Skellig, 70-80 fms. (Haddon '89).

Edwardsia ? sp.; an immature specimen found at Salthill (Haddon '86).

Family—ILYANTHIDÆ.

Halcampa chrysanthellum (Peach). *Halcampa andresii*, Haddon.

. ii., iii., . . .

- ii. Malahide, coll. Miss Shannon (Haddon '85 and '86c).
- iii. ? Nymph Bank, co. Cork, 52½ fms.; the parasitic larva was found at Ballycotton Bay, coll. R.I.A. Exp. 1886 (Haddon '87 and '89).

An immature specimen, parasitic on a *Thaumantias*, found at Kingstown, and described under the name *H. fultoni*, T. S. Wright, is probably the larval form of *H. chrysanthellum* (Haddon '86 and '86c).

***Halcampa arenarea*, Haddon.**

. . . iv., . . .

- iv. Kenmare River, 38–44 fms.; Bantry Bay, 38 fms., coll. R.I.A.
Exp. 1885 and 1886 (Haddon '86A. and '88): Ballinskelligs
Bay, 28–32 fms., coll. R.D.S. (Holt '92).

***Plyanthus scoticus*, Forbes.**

. . . ? ii.,

- ?i. A specimen, doubtfully referred to this species, was found by
Mrs. Handcock at Balbriggan, after a storm (Thompson '45).

***Peachia hastata* (Gosse).**

? i., ii.,

- ?i. Larne; reported by Miss Shannon (Haddon and Dixon '85).
ii. Dollymount, Dublin Bay, coll. G. Y. Dixon (Haddon and Dixon
'85; G. Y. and A. F. Dixon '91).

Holt ('92) records a species of *Peachia* from Donegal Bay, and off
the Skelligs.

Family—ACTINIIDÆ.

Sub-family—ANTHEKINÆ.

***Actinia equina*, Linn.** *Actinia mesembryanthemum*, Ellis and
Solander. *Actinia margaritifera*, Templeton.

i., ii., iii., iv., v., vi.

This anemone is common all round the coast.

***Anemonia sulcata* (Pennant).** *Actinia cereus*, Ellis and Solander.
Anthea cereus, Gærtner.

i., ii., iii., iv., v., vi.

This species has been recorded from many localities round the coast.

Sub-family—SAGARTINÆ.

***Actinoloba dianthus* (Ellis).** *Actinia dianthus*, Ellis. *Metridium*
dianthus, Fischer.

i., ii., iii., iv., v., vi.

Recorded from many localities round the coast.

***Cereus pedunculatus* (Pennant).** *Sagartia (Heliactus) bellis* (Ellis
and Solander).

i., ii., iii., iv., v., vi.

Found all round the coast.

Sagartia (Heliactis) venusta, Gosse.

i., ii., iii., iv., v., vi.

- i. Belfast (Wright '59).
- ii. Monkstown (Mackintosh '78): Dalkey Island (Haddon '86).
- iii. South coast (Wright '59; Wright and Greene '59).
- iv. Bantry Bay, coll. E. P. Wright (Greene '58A): Dingle Bay (Andrews '70): Valencia, coll. A. C. Haddon (G. Y. Dixon '88).
- v. West coast (Wright '59; Wright and Greene '59): Clare coast (Foot '63).
- vi. Bundoran (Duerden '95A).

Sagartia (Heliactis) ornata, Holdsworth.

. . . iv., . .

- iv. Crookhaven Harbour (Wright '59).

Sagartia (Heliactis) miniata, Gosse. *Paraphellia greenii*, Haddon.

. ii., . iv., v., .

- ii. Bray Head, 23 fms.; Dalkey (Haddon '86).
- iv. Crookhaven, Dingle, and Berehaven (Wright '59): Dingle Bay (Andrews '70): 42 miles off the Great Skellig, 160 fms., coll. R.I.A. Exp. 1886 (Haddon '88).
- v. Off Inishmaan, 20-7 fms.; Killary Bay, 15-9 fms., coll. R.D.S. (Holt '92).

Sagartia rosea (Gosse).

. ii., . iv., v., .

- ii. Dalkey Island (Haddon '86).
- iv. Adragool, co. Cork (Wright '59): Dingle Bay (Andrews '70): Valencia, coll. W. de V. Kane (A. F. Dixon '88).
- v. West coast (Wright '59): Miltown Malbay (Foot '60).

Sagartia nivea (Gosse).

. ii., . iv., v., vi.

- ii. Dalkey Island (Haddon '86).
- iv. Crookhaven (Wright '59): Valencia (Gamble '96).
- v. West coast (Wright '59): Miltown Malbay (Foot '60).
- vi. Bundoran (Duerden '95A).

Sagartia sphyrodeta, Gosse.

. . . iv., v., .

iv. Parkmore Head, Ventry Bay (Wright '59): Dingle Bay (Andrews '70).

v. Lahinch (Foot '63).

Sagartia pura, Alder.

. . . iv., . .

iv. Berehaven (Wright '59).

Sagartia pallida, Holdsworth.

. . . ? iv., . .

iv. Dursey Sound; ? a variety of *S. pallida*, coll. R.I.A. Exp. 1885 (Haddon '86A).

Sagartia ? herdmani, Haddon.

. . . . v., .

v. Killary Lough, on *Turritella* shells; West of Ireland, 5-10 fms., abundant, coll. S. Y. "Argo" Cruise, described by Professor Haddon (Herdman '91).

Sagartia (Thoe) hastata, E. P. Wright.

. . . iv., . .

iv. The Pipers, Berehaven Harbour (Wright '59). Considered by Andres to be a doubtful species.

Cylista viduata (Müller). *Actinia effata*, Brug. *Actinia viduata*, Müller. *Sagartia viduata*, Gosse.

i., ii., . . v., .

i. Between Ballyholme Bay and Groomsport, in great numbers (Templeton '36, sub *A. effata*, Brug.): Bangor, co. Down (Thompson '56).

ii. Dublin coast (Greene '58A): Malahide and Howth (G. Y. and A. F. Dixon '91).

v. Lahinch (Thompson '41).

Cylista undata (Müller). *Sagartia troglodytes* (Johnston).

i., ii., . iv., v., vi.

- i. Portrush (Greene '58A): Belfast; ? Portrush and Giant's Causeway (Wright '59).
- ii. Monkstown and Dalkey (Haddon '86).
- iv. Dingle Harbour (Andrews '70): Valencia (Gamble '96).
- v. Spanish Point, Miltown Malbay (Foot '60).
- vi. Bundoran (Duerden '95A).

Cylista coccinea (Müller). *Actinia coccinea*, Müller. *Sagartia coccinea*, Gosse.

i., ii., . ?iv., v., ?vi.

- i. On the "Turbot bank" (Hyndman '60).
- ii. Dublin Bay (Irvine '54).
- ?iv. Dursey Sound (Haddon '88).
- v. West coast (Thompson '44A).
- ?vi. Between Erris Head and Horn Head (Wright and Greene '59).

Chitonactis coronata (Gosse). *Bunodes coronata*, Gosse.

. . . iv., . .

- iv. South-west of Ireland, 50' fms., and 200 fms. (Haddon '89; Bourne '90): off the Skelligs, 80 fms., coll. R.D.S. (Holt '92).

Chitonactis marioni (Haddon).

. . . iv., . .

- iv. Off the south-west of Ireland, 325 fms., coll. R.I.A. Exp. 1886 (Haddon '88 and '89).

Actinange richardi (Marion). *Chitonactis richardi*, Marion.

. . . iii., iv., . .

- iii. Off Glandore, 50 fms., coll. R.I.A. Exp. 1886 (Haddon '88).
- iv. Off Dursey Head, 93 fms. and 100 fms.; west of Great Skellig, 70-80 fms., coll. R.I.A. Exp. 1886 (Haddon '88 and '89): south-west of Ireland, "Flying Fox" Exp., 1889 (Green '89): south-west of Ireland, 200 fms. and 400 fms. (Bourne '90).

Actinange sp.

South-west of Ireland, 345 fms., coll. R.I.A. Exp. 1888; perhaps a deeper-water variety of *A. richardi* (Haddon '90).

Paraphellia expansa (Haddon). *Chitonactus* (?) *expansa*, Haddon.

. . . iv., v., .

iv. Mouth of Bantry Bay, 40 fms., coll. R.I.A. Exp. 1885 and 1886 (Haddon '86A, '88 and '89): between Doulus Head and Blasket Islands (Beaumont 1900).

v. Galway Bay, 14 fms., coll. R.D.S. (Holt '92).

Adamsia palliata (Bohadsh). *Actinia maculata*, Adams. *Adamsia maculata*, Forbes

i., ii., iii., iv., v., .

i. Strangford Lough; Belfast Lough (Thompson '40): off Larne, 70–90 fms. (Hyndman '59): Portrush (Mackintosh '84).

ii. Howth, one specimen (Hassall '41B): ? Dublin Bay, coll. Dr. Ball (Wright '59): Greystones (Mackintosh '84).

iii. Waterford (Farran '60).

iv. Bantry Bay (Wright '59): Dingle Bay (Andrews '70): the Skelligs, coll. R.I.A. Exp. 1886 (Haddon '88): between Doulus Head and Blasket Islands (Beaumont 1900).

v. Birturbuy Bay, 7 fms., coll. R.D.S. (Holt '92).

Adamsia rondeletii (Delle Chiaje). *Sagartia parasitica* (Couch).

. . . iv., v., .

iv. Bantry Bay (Wright '59): Dingle Bay (Andrews '70).

v. Coast of Clare (Foot '63).

Aiptasia couchii (Gosse).

. . . iv., . .

iv. Dingle Harbour (Andrews '70).

Sub-family—BUNODINÆ.

Bunodes verrucosa (Pennant). *Actinia gemmacea*, Ellis. *Bunodes gemmacea*, Gosse.

i., ii., iii., iv., v., vi.

i. North coast (Thompson '44A).

ii. Dublin coast (Hassall '41B): Rush (Duerden '94B).

iii. Cork Harbour (Greene '58D).

iv. Bantry Bay (Wright '59): Valencia, coll. J. M. Jones (Gosse '60).

v. Spanish Point, Miltown Malbay (Foot '60).

vi. Bundoran (Duerden '95A): Knocklane, co. Sligo (W. H. Gallway in the Irish Naturalist, xiii, 1904).

Bunodes balli (Cocks).

. . . iv., v., .

iv. Parkmore Head, Ventry (Wright '59).

v. Coast of Clare (Foot '63).

Bolocera tuediæ (Johnston).

. . . iv., . .

iv. South-west of Ireland, 50 fms., coll. R.I.A. Exp. 1888 (Haddon '90).

Bolocera eques, Gosse.

. ii.,

ii. Greystones, 12 fms. (Mackintosh '84).

Stomphia churchiæ, Gosse.

. ii., . ? iv., . .

ii. Greystones, 12 fms. (Mackintosh '84).

? iv. Dingle Bay, 40 fms. (Andrews '70, sub *S.* (?) *churchiæ*).

The position of this species is still considered doubtful.

Family—CORALLIMORPHIDÆ.

Corynactis viridis, Allman. *Corynactis allmanni*, E. P. Wright.

i., . . iv., v., vi.

i. Belfast Lough and Strangford Lough, 15-20 fms. (Thompson '46).

iv. Crookhaven (Allman '46): Bantry Bay and Ventry Harbour (Wright '59): the Skelligs, coll. R.I.A. Exp. 1886 (Haddon '88): Valencia (Gamble '96).

v. West coast (Wright and Greene '59).

vi. Bundoran (Duerden '95A).

Capnea sanguinea, Forbes.

. . . ? iv., . .

? iv. Dingle Bay, 40 fms. (? *C. sanguinea*, Andrews '70).**Aureliana heterocera**, Thompson.

. ii., . iv., . .

i. Greystones, between tides (Mackintosh '84).

iv. Crookhaven (Wright '59; Wright and Greene '59).

Family—AMPHIANTHIDÆ.

Gephyra dohrnii, Von Koch.

. . iii., iv., . .

iii. Between Cork and Youghal, found by Rev. W. S. Green; 9 miles south of Glandore Harbour, 40 fms., coll. R.I.A. Exp. 1885 (Haddon '86A).

iv. 30 miles off the Fastnet, 80 fms.; 5–8 miles off the Skelligs, 70–80 fms., coll. R.I.A. Exp. 1886 (Haddon '88 and '89).

Family—TEALIIDÆ.

Urticina felina (Linn.). *Tealia crassicornis* (Müller). *Actinia gemmacea*, Couch. *Tealia greenii*, E. P. Wright.

i., ii., iii., iv., v. .

Common round the coast.

INCERTÆ SEDIS.

Actinerus, sp.

. . . iv., . .

iv. South-west Ireland, 750 fms., coll. R.I.A. Exp. 1888. "There is at present no information by means of which the genus can be allocated a definite position in the classification of the Actiniæ." (Haddon '90).

For definition of the genus, see also Verrill in American Journ. Sci., xvii., 1879.

MADREPORARIA.

Family—TURBINOLIDÆ.

Caryophyllia clavus, Scacchi: var. *borealis*, Fleming; var. *smithii*, Stokes.

i., ii., iii., iv., v., vi.

Reported from many localities round the coast.

Caryophyllia cylindracea, Reuss.

. . . iv., . .

iv. Mouth of Kenmare River, 40 fms., coll. R.I.A. Exp. 1885 (Haddon '86A).

Sphenotrochus macandrewanus, M. Edwards and Haime. *Turbinolia milletiana*, DeFrance.

. . . v., .

v. Off the Aran Islands, dredged by Mr. Barlee (Thompson '46).

Sphenotrochus wrightii, Gosse.

i., ii., . iv., . .

- i. The "Turbot bank," off the Antrim coast (Hyndman '60).
- ii. The "Shell bank," off the Dublin coast (Kinahan '61).
- iv. Berehaven; undoubtedly fresh specimens, coll. R.I.A. Exp. 1885 (Haddon '86A).

Paracyathus taxilianus, Gosse.

. . . iv., . .

- iv. Recorded by Andrews ('70A) as occurring off the Blasket Islands, 35-40 fms.

Paracyathus thulensis, Gosse.

. . . iv., . .

- iv. Recorded by Andrews ('70A) as occurring off the Blasket Islands, 35-40 fms.

Flabellum laciniatum, M. Edwards. *Ulocyathus arcticus*, Sars and Haime.

. . . iv., . .

- iv. South-west of Ireland, 370 fms., "Porcupine" Exp. (Jeffreys in Nature, i., 1869; Duncan '70).

Family—OCULINIDÆ.

Lophohelia prolifera, Pallas.

. . . iv., v., .

- iv. South-west of Ireland, 364 fms., "Porcupine" Exp. (Jeffreys in Nature, i., 1869; Duncan '70): 50 miles off Bolus Head, co. Kerry, 220 fms., coll. R. D. S. (Holt '92).
- v. West coast, 173 fms., and 422 fms., "Porcupine" Exp. (Duncan '70; Carpenter, Jeffreys, and Thomson '70): abundant off the west coast, at depths from 150 fms. to 500 fms. (Thomson '73).

Family—EUPHAMMIDÆ.

Balanophyllia regia, Gosse.

. . . iv., . .

- iv. Dingle Bay (Andrews '70).

APPENDIX.

The following names occur in some of the older accounts of Irish Cœlenterata; it seems impossible to determine absolutely to what species they refer.

Actinia monile; Belfast Lough (Templeton '36). ? A young *Bunodes verrucosa*.

Æquorea formosa; Dublin coast (Greene '57). Perhaps the larval form of one of the *Æquoridæ*: or ? *Dipleurosma hemisphærica* (Haddon '86B).

Æquorea radiata; Portrush (Templeton '36).

Æquorea *sp. nov.*; Dublin Bay and south-west coast (Greene '58B).
" ? = A young stage of an *Æquorea*, or a *Polycanna*."
(Browne 1900).

Aurelia bilobata, Forbes. Portrush (Thompson '44A).

Callirhoë dubia; Irish coast (Templeton '36).

Cucumis fulgens, Macartney; Dundrum Bay, west of St. John's Point (Templeton '36).

Cyanea inscripta; Carrickfergus (Templeton '36). ? = *Cyanea capillata* (Haeckel '79).

Cymodoce simplex, Turner; Ireland. "Probably founded on injured specimens of *Obelia gelatinosa*, or some other Zoophyte"
(Johnston '47).

Ephysa hemisphærica; common on the coast (Templeton '36).
Forbes suggests that this may be a "young state of *Aurelia*."

Ephysa simplex; Donaghadee (Templeton '36). "Probably, as Cuvier suggests, some species in a mutilated state." Forbes.

Mammaria mamilla, Müller. Irish coast (Fleming, "History of British Animals").

Medusa (*Oceania*) **papillata**, Müller; Strangford Lough (Thompson '40). ? = Eucopium-larva of *Phialidium variable* (Haeckel '79).

Medusa **scintillans**; Dublin Bay and Carlingford Bay (Macartney '10); Bangor and Glenarm (Templeton '36). This is the protozoon *Noctiluca miliaris*.

Ocyrhoë (*Cassiopea*) **cruciata**; north coast of Ireland (Templeton '36).

Ocyrhoë (*Chrysaora*) **tuberculata**; north coast of Ireland (Templeton '36). ? = *Chrysaora isosceles* (Haeckel '79).

Piliscelotus (*Obelia*) **vitreus**; Whitehead (Templeton '36). ? = *Tiara pileata* (Haeckel '79), or ? = *Sarsia tubulosa* (Forbes '48).

Sertularia **templetoni**; Belfast Lough (Fleming in the "Edinburgh Phil. Journ.," 1820, p. 88).

Thaumatias **confluens**; south and west coasts (Wright and Greene '59). ? = *Laodice ulothrix* (Haeckel '79).

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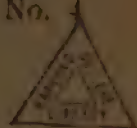
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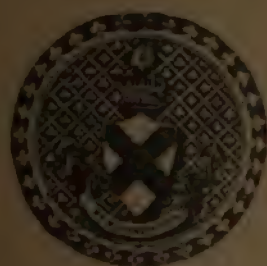
ROYAL IRISH ACADEMY

VOLUME XXV, SECTION B, No. 4



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CARBONIFEROUS LIMESTONE IN
THE WEST OF IRELAND



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IV.

NOTES ON THE HOMOTAXIAL EQUIVALENTS OF THE
BEDS WHICH IMMEDIATELY SUCCEED THE CARBONI-
FEROUS LIMESTONE IN THE WEST OF IRELAND.

By WHEELTON HIND, M.D., B.S., F.R.C.S., F.G.S.

[PLATES III.-VI.]

COMMUNICATED BY PROF. G. A. J. COLE, F.G.S.

Read FEBRUARY 27. Ordered for Publication MARCH 1.

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A LARGE stretch of country in County Clare, County Limerick, and County Kerry, was originally described and mapped as Coal Measures, in the Memoirs of the Geological Survey of Ireland. Later on, unfortunately, the one-inch maps were made to show the succession to be Coal Measures, Millstone Grits, Yoredale rocks, and Carboniferous Limestone.

The object of this Paper is to record the fossils which characterise the different horizons in this series, which measures some 1000 feet in thickness, and which, undoubtedly, lies conformably upon the upper beds of the Carboniferous Limestone.

Structure of the District.—The whole area with which this Paper deals is fortunately very simple in its geological structure, and forms a single, regular basin of the Carboniferous beds, the western portion having been cut away by marine action, and thus exposing cliff sections, which are of great value, as they afford practically a complete exposure of the beds which overlie the Carboniferous Limestone.

On the north the area is bounded by the Carboniferous Limestone of Black Head and the Burren, affording a continuous section of some 2000 feet of Carboniferous Limestone, which here consists of a series of limestone beds unbroken by intercalations of shale or sandstone, and not showing any trace of the subdivisions of that series which obtain elsewhere in Ireland. On the east the Burren limestones form the boundary from Kilfenora *via* Corofin to Ennis; and the limestone is continued south of Ennis to the Shannon, at Lord's Rock.

South of the Shannon the Upper Limestone crops out on the shore three-fourths of a mile east of Foynes station; and its junction with the shales passes due south to a point about eight miles south of Newcastle. The west boundary shows, in the northern portion, the Carboniferous Limestone from Black Head to Fishergate, where it passes beneath the shale series. From Fishergate to some ten miles north of Kerry Head the Carboniferous Limestone is some little distance out to sea, but here it again appears in the cliffs. On the southern boundary the limestone stretches from the shore of Dingle Bay *via* Killarney to Mallow, a tongue of the Upper Carboniferous beds stretching west from Kanturk to a point south-west of Doneraile.

In the Burren district, and through the larger portion of County Clare, the beds dip very slowly and regularly into the basin on all sides, often at 5° to 8° , and faults are rare and unimportant; but south of Mutton Island, the dips increase in magnitude, and there is some faulting, which appears to be very local and of no great throw.

There is, therefore, a regular basin of Carboniferous Limestone in which the overlying beds rest conformably.

The junction of the upper beds of the Carboniferous Limestone with the shale series above is well seen at many places in the north and east of the county.

In the neighbourhood of Lisdoonvarna, the River Aille and its tributary streams have cut down through the shales to the Carboniferous Limestone below, and in many cases have sunk through the fissures and cracks of the limestone, leaving a dry, slightly sloping bed of rock which forms the bottom of the ravines. Several sections in the River Aille and the stream flowing due south into it at Lisdoonvarna, called the Kilmoon stream, show exactly the same sequence—

Black shales, with limestone bullions, *i.e.* concretionary nodules (with *Glyphioceras diadema*, *Dimorphoceras Gilbertsoni*, *Orthoceras* sp.).

Carboniferous Limestone, well bedded (with *Pterinopecten papyraceus*, Corals and Brachiopoda).

Similar sections were observed north of Lisdoonvarna, in the streams coming down the east slope of Slieve Elva, also in streams which cross the bog overlying an outlier of the shales in the townlands of Cullaun and Gregans West.

In some places the bullions, so conspicuous elsewhere, are absent and the fossils occur flattened and crushed in thin shales. In the Kilmoon Stream, immediately north of Ballydonohoe Bridge, bullions

do not appear in the section of shale which rests on the top bed of Carboniferous Limestone exposed in the stream but the shales are crammed with fossils.

It appeared to me that *Glyphioceras diadema* and its varieties occur immediately above the limestone, *Pterinopecten papyraceus* appearing a few feet higher. Also that the lowest 12 to 20 feet of shales were fossiliferous, remains being rarer above.

Further down the Kilmoon stream, at the place marked with a * on the 1-inch Geological Map, the section shows Carboniferous Limestone at the base, with a few corals (*Lithostrotion*), immediately overlain by shales full of bullions, the latter highly fossiliferous. (Pl. iii., fig. 2.)

The fossils are—

Glyphioceras diadema.

ditto with large

umbilicus and coarse ribs.

G. Phillipoti.

Dimorphoceras Gilbertsoni.

D. discropanis.

Nomismoceras spirorbis.

Orthoceras acutum sp. nov.

O. acicularis.

Posidoniella laevis. *P. minor*.

With black shales above, containing

Posidoniella laevis. *Posidoniella minor*. *Pterinopecten papyraceus*.

This section can be followed for some distance south, the beds dipping at the same rate as the fall in the stream level, about 5°; but eventually the limestone floor disappears, and the section is continued in the shales.

A fine section is seen on the south of the road, and continued in the gorge of the stream west of Gowlaun Bridge, Lisdoonvarna. The shales on the upper part of the section are thin bedded, and black, and apparently contain few or no fossils; but following the stream west, past the iron and sulphur springs, the limestone floor appears in its bed with the fossiliferous shales resting on it. A similar section is seen about 200 yards east of Gowlaun Bridge.

At the Spectacle Bridge the base of the shales is again to be seen on the north side of the River Aille; and here the overlying shales are crowded with fossils, and are full of fossiliferous bullions in the lower part. Similar sections, rich in the same fossils, occur in the Aille, between Knockaquilla and Roadford, where the stream passes on to the limestone and soon sinks out of sight, to come to light again in fissures in the outcrop of massive limestone to the north of Fisherstreet Bay; the dip is here south-east at 5°. The junction of shales and limestone is unfortunately not seen at Fisherstreet; but, standing on the limestone

at the north of the bay, cliffs on the south formed of black shales dip south-east at 5° , so that it is easy to calculate the exact distance that these beds are above the top of the Carboniferous Limestone.

The cliffs south of Fishergate strand are continuous with the Cliffs of Moher, and furnish a complete and unbroken section of the Carboniferous rocks, from practically the base of the shale series to the mass of shales which overlies the grits and sandstones, and forms the highest part of the Cliffs of Moher.

Unfortunately, owing to the rapid rise of the cliffs in height, and their precipitous character, it is impossible to make a detailed examination of each bed; but this much appears to be the case, viz.:—the lower portion of the black shale series, that was seen in the sections at Lisdoonvarna and in the River Aille, is absent, but, turning south, a rapidly rising cliff of black shales is seen. In a bed of black shale 12 feet above the floor of sand, I obtained the following fossils:—

Pterinopecten papyraceus.

Glyphioceras reticulatum.

Posidoniella laevis.

Orthoceras koninckianum.

The shales above are much jointed, the joints deeply iron-stained, and they contain bullions of various sizes, but chiefly flattish and unfossiliferous.

The black shale series is succeeded by sandy flags, which crop out in the cliff above the dry bed of the Aille; and these flags form the top of the cliff south of Fishergate, dipping south-east at 5° , and reaching the sea-level almost one mile south of Faunmore. In all there are about 80 feet of the shale series which intervene between the massive Carboniferous Limestone and the flagstone series.

A block of a calcareous concretion in the collection of the Geological Survey, labelled "Cliffs of Moher," contains *Glyphioceras reticulatum* and *Nomismoceras spirorbis*. I did not pretend to examine the flagstone series with any minuteness; but the sequence given by the Geological Survey in the Sheet Memoir of 114, 122, and 123, is substantially correct, and is as follows:—

Black shales, 40 feet.

Marine band, 5 inches.

Flags, with track-marks.

Olive grits.

Black shales, 300 feet.

Grits and flags.

Upper Limestone shales, 80 feet.

Carboniferous Limestone.



FIG. 1—Cliffs of Moher, below O'Brien's Tower.
Marine band at X.



FIG. 2—Kilmoon stream, Lisdoonvarna. Junction of
Carboniferous Limestone and shales with
bullions of *Glyptocrinus diadema* at X.

The 40 feet of black shales are the highest beds seen in the immediate district, and form the most elevated portion of the Cliffs of Moher. These measures are mapped as Coal Measures, and have at their base an interesting and important marine bank full of fossils containing—

Glyphioceras reticulatum,
Orthoceras sp.,

Pterinopecten papyraceus,
Posidoniella lævis—

a fauna which does not afford positive evidence as to the question of the wisdom of calling these beds Coal Measures. The band of marine fossils is important, and forms a fairly accurate *datum* line, being seen at other places in the cliffs further south. (Pl. iii., fig. 1.)

As the cliffs are traced south, the beds dip less than the slope of the ground, and consequently the lower beds appear at Hag's Head, and in Liscannor Bay; and the following section is given by the Geological Survey, Explanation of sheet 114, as occurring in the cliff south of Moher House. A small stream at this point cuts the cliff, and affords an opportunity of examining the section bed for bed.

Gray shale.

| | | |
|------------------------|-------|-------------|
| Olive grits and flags, | | 6 to 7 feet |
|------------------------|-------|-------------|

| | | |
|--|-------|---------------|
| Gray shale, with nodules and bands of iron-stone, calcareous fossiliferous nodules, and strings of coal, | | 15 to 20 feet |
|--|-------|---------------|

| | | |
|-----------------------|-------|----------|
| Kelvy shale and coal, | | 4 inches |
|-----------------------|-------|----------|

| | | |
|-------------------------|-------|--------|
| Gray indurated clay, .. | | 1 foot |
|-------------------------|-------|--------|

| | | |
|--|--|-------------|
| Olive grit, with <i>Stigmaria</i> and plant-stems, | | 2 to 4 feet |
|--|--|-------------|

| | | |
|----------------------------------|----|--------|
| Bluish-gray sandy, flaggy shale, | .. | 3 feet |
|----------------------------------|----|--------|

| | | |
|---|-------|---------|
| Olive gray, rippled flags, and irregular grits, with shale bands, | | 55 feet |
|---|-------|---------|

Gray, flaggy shale.

This must be from below upwards.

The floor of the section at sea-level is formed by a bed of olive grit, which dips at 5° south. On this bed rests a marine band, containing the following species:—

Pterinopecten papyraceus.

Posidoniella lævis.

Glyphioceras reticulatum.

Glyphioceras sp. (large species too crushed to determine).

Orthoceras.

Fish-tooth.

This bed is much lower than that mentioned above, as occurring

40 feet below the top of the Cliffs of Moher; some 20 feet above this band, fossils are in a gray shale with nodules, but seem rarer. The nodules are, however, sometimes crammed with minute *Goniatites*, which I have not been able to determine. I think these bands are probably identical with those seen in the Puffing Hole at Kilkee.

The Survey mentions the occurrence of the same beds on the opposite shore of Liscannor Bay, north of Rineen House.

Area of Corofin and Ennis.—Good sections of the junction between the upper bed of the Carboniferous Limestone and the shales are to be seen round Kilfenora. There is a good section a quarter of a mile north of Ballyshanny House, as was noted by the Geological Survey. Here the shales contain bullions with *Goniatites* exactly similar to the section near Lisdoonvarna.

The River Fergus, flowing almost due east, reaches the junction of the shales and limestone a little east of Kiltoraght Glebe house; and though the actual junction is not visible, the calcareous shales a few feet above the junction contain—

Posidonomya membranacea. *Pterinopecten papyraceus.* *Goniatites.*

Plant-remains were seen in the river further west in beds which must lie some distance above those at the watersink of the Fergus. Another good section of the junction of limestone and shale is seen at Vigo Cave. Here the beds are horizontal; and the lower beds of the shale series consist of black calcareous shales and thin limestones, said by the Survey (p. 141, *op. supra cit.*) to abound in fossils; but I was not fortunate enough to obtain any.

One mile south of Vigo Cave, at Adelphi, the upper beds of the limestone form a cliff which is capped with black shales. The shales can be examined for some extent in a stream-section about a quarter mile south of the house. These contain the usual characteristic fossils. Good sections of the shales are to be seen in the road which skirts the western shore of Inchiquin Lake, and also in small streams south of the road from Willbrook to Corofin.

At Ennis, the upper beds of the limestone contain a blue bed crammed with specimens, often rolled, of a small variety of *Productus giganteus*; and above the limestone come the shales on the road to Coor spa well, said by the Survey to contain numerous *Goniatites* and *Posidonomya*. The shales are seen in the well itself, and in the bank of the River Inch below the cottage opposite the well.



FIG. 1.—Cliffs beyond the Puffing Hole, Kilkee, showing
two marine bands at XX.

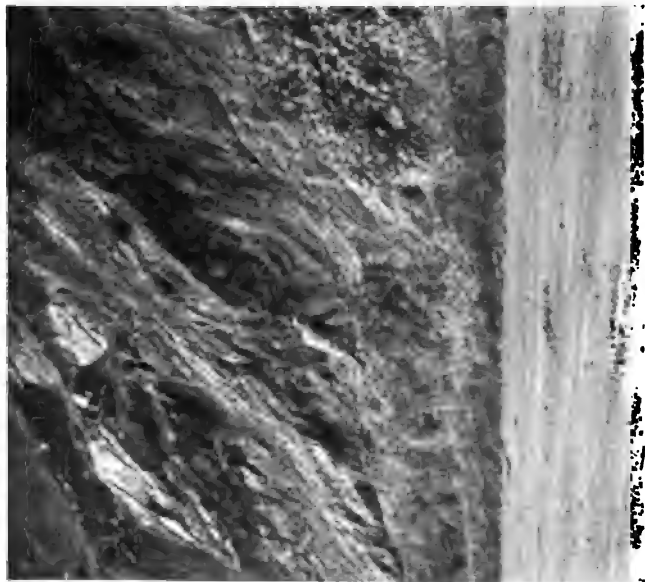


FIG. 2.—Section north of the Inn at Foynes. The
marine band is being examined by the
figure.

The specimens obtained by the Geological Survey at Coor spa well have been kindly lent to me for examination; and the following species occur there:—

Posidoniella lavis.

Orthoceras morrisianum.

P. minor.

Glyphioceras reticulatum.

Pterinopecten papyraceus.

G. Davisi.

The sequence west of the Carboniferous Limestone border at Corofin and Ennis corresponds to that in the coast section between Fishergate and Liscannor, the contour of Slieve Callan, which occupies the centre of County Clare, being very characteristic of the shales and grits, and very similar to that of the Cliffs of Moher viewed from the north-east.

The District of Kilkee.—Here the beds dip at higher angles than in the north of the county, and are thrown up into basins and traversed by faults of small throw.

The coast north and south of Kilkee affords a fine section of the olive grits and shales. Marine bands are to be seen at the following places. A thick bed of black shale with Goniatites, which I did not find, is said to occur about three-quarters of a mile north-west of Loughglass. Half a mile due south of Loughglass, where the cliff path crosses a stream, is a section commenced in the stream and continued in the cliff. In this section occurs a marine band one foot above a bed of grit with

Glyphioceras reticulatum.

Loxonema strigillatum.

Nuculana stilla.

Euphemus Urei.

Pterinopecten papyraceus.

Lingula mytiloides.

Ptychomphalus pisum.

Productus semireticulatus.

P. interstitialis.

This bed probably is identical with the lower marine band at the Puffing Hole, west of Kilkee. Grits and flags are well exposed west of Kilkee strand, from Duggerna Rock to Knockroe Point; and a quarry above the cliffs shows the shaley grits, slabs of which are covered by peculiar tracks, evidently the same series which occurs between Liscannor and the Cliffs of Moher. Still further east in the Puffing Hole, and around the headlands west of this spot, two marine bands can be traced. The lower occurs immediately above a well-marked grit-band, and contains teeth of *Polyrhizodus*, Crinoids, and *Glyphioceras reticulatum*. (Pl. iv., fig. 1.)

About 20 feet higher up is a much richer band of fossils including—

| | |
|-----------------------------------|---------------------------------------|
| <i>Pterinopecten papyraceus.</i> | <i>Glyphioceras reticulatum.</i> |
| <i>Posidoniella laevis.</i> | <i>G. Davis.</i> |
| <i>Ctenodonta laevirostris.</i> | <i>Chonetes laqueosiana.</i> |
| <i>Nuculana stilla.</i> | <i>Productus semireticulatus.</i> |
| <i>Parallelodon semicostatus.</i> | <i>Ptychomphalus pisum.</i> |
| <i>Cypricardella selysiana.</i> | <i>P. interstitialis.</i> |
| <i>Orthoceras Steinhaueri?</i> | <i>Loxonema strigillatum.</i> |
| <i>O. koninckianum.</i> | <i>Zaphrentis aff. Z. Phillipsii.</i> |
| Nautiloid (large). | <i>Scaphiocrinus.</i> |

This bed will form a valuable index of horizon; and it is supposed that it re-appears in the coast at Illaunglass, some 6 miles further south.

I quote here the section as given by the Survey in the Memoir explanatory of sheets 140 and 141, p. 12:—

| | F | In. |
|--|----|-----|
| 10. Olive grits and flags. | | |
| 9. Black and gray shales, | 30 | 0 |
| 8. Pyritic shale with fossils, | 1 | 3 |
| 7. Coal or kelve, | 0 | 1 |
| 6. Quartzose band, | 0 | 5 |
| 5. Limestone band with Crinoids, | 0 | 3 |
| 4. Black shale with fossils | 10 | 0 |
| 3. Olive grits and flags, | 50 | 0 |
| 2. Black shale with fossils, | 25 | 0 |
| 1. Olive grits. | | |

A similar fauna is stated to occur at several places on the coast between Kilkee and Loop Head; but I was unable to examine these sections.

The Geological Succession near Foynes, County Limerick.—The sequence of rocks in the Foynes district is almost complete; and all the beds can be examined from the Lower Limestone, which to the east extends from the Shannon along the west of Aughinish Island, and follows a line almost due south. The Lower Limestone is very fossiliferous, especially in the upper beds.

The Upper Limestone is as a rule dark blue, and has layers of chert. Fossils are not so abundant as in the lower beds; but *Zaphrentis* and other corals, and Brachiopoda are to be found (*Spirifer trigonalis*, *Productus semireticulatus*).

The actual junction of the shale series and the Upper Limestone is not seen; but there cannot be much distance between the limestone at Durnish Point and the beds on the east of Foynes Island. The junction runs due north from the mass of limestone south of the railway to Sturamus Island, so that the base of the shale series must cross the Shannon very little to the east of Foynes Island.

And that this is the case is probable from the occurrence of a bed of shales with calcareous bullions, very rich in *Goniatites*, recalling in appearance those found immediately above Carboniferous Limestone at Lisdoonvarna.

On Foynes Island, at Gammarel Point, and half a mile north on the shore, are black shales with bullions containing the following:—

| | |
|-----------------------------------|-----------------------------------|
| <i>Nomismoceras spirorbis.</i> | <i>Orthoceras Steinhaueri.</i> |
| <i>Glyphioceras diadema.</i> | <i>O. Koninckianum.</i> |
| <i>G. Phillippi.</i> | <i>Orthoceras aciculare.</i> |
| <i>G. reticulatum.</i> | <i>Posidoniella levis.</i> |
| <i>G. Davisi.</i> | <i>P. minor.</i> |
| <i>Dimorphoceras Gilbertsoni.</i> | <i>Macrocheilina reticulatum.</i> |
| <i>D. discrepans.</i> | <i>M. Gibsoni.</i> |
| <i>Calonautilus quadratus.</i> | <i>M. elegans.</i> |

The succession from the landing-stage near Foynes House was as follows:—

Hard nodule shales, olive colour.

Black shales with *Glyphioceras spirale*, *G. diadema*, *Posidoniella levis*.

Shales harder and more calcareous than above, with *Pterinopecten papyraceus*.

And below high-water mark at dip 45° on 1-inch map:—

Black shale with bullions, with the fauna mentioned above.

At the north of the island the series shows from above downwards:—

Grits and shales.

Black shales.

Flag stones and olive grits.

Black shales.

Olive grits.

Grits and shale parting.

Black shales with fine bullions.

On the mainland west of Foynes Station, and behind the inn and saw-mill, is a good section, which also extends along the south shore of the Shannon. This shows an anticlinal with the following sequence:—

Thick fine-grained grits and flags.

Gap.

| | | | |
|--------------------------------------|----|----|--------|
| Calcareous mudstone not well bedded, | .. | .. | 18 ft. |
|--------------------------------------|----|----|--------|

| | | | |
|--------|----|----|-------|
| Shale, | .. | .. | 2 ft. |
|--------|----|----|-------|

| | | | |
|---------------------------|----|----|--------|
| Hard calcareous mudstone, | .. | .. | 30 ft. |
|---------------------------|----|----|--------|

| | | | |
|----------------------|----|----|--------|
| Compact sandy shale, | .. | .. | 10 ft. |
|----------------------|----|----|--------|

| | | | |
|-------------|----|----|--------|
| Peaty beds, | .. | .. | 20 ft. |
|-------------|----|----|--------|

And just north-west of the saw-mill is a section of shales with large black bullions, low down, containing *Glyphioceras diadema* and the variety with the coarse ribs and large umbilicus, *Dimorphoceras Gilbertsoni*, *Orthoceras koninckianum*. (Pl. iv., fig. 2.)

Baily (Memoir of the Geological Survey, Ireland, Expl. of sheet 142) quotes *Posidonomya Becheri* or *P. vetusta* from Foynes Island. I was unable to find the former, which I should have expected to occur in beds immediately on the top of the Upper Limestones; but I fancy that both the species mentioned were wrongly identified, *Posidonella laevis* and other species of this genus being mistaken for them.

The goniatite *Glyphioceras crenistria* was evidently an error for *G. diadema* and *G. reticulatum*.

Similar fossils were found west of Shannagolden and Mount David. A fairly extensive section is seen in the stream which runs due east into Shannagolden, showing gritty beds and shales; but I did not find the bullion-bed there, the section being higher up in the series.

The similarity of the fauna occurring at Foynes Island and that found near Lisdoonvarna is very striking, and points not only to a similar horizon on each side of the basin, but also to the fact that the top of the limestone series is practically the same in each place.

West of Foynes, the Foynes coalfield succeeds the grits which lie on the Upper Limestone Shales. Several fossil plants were collected by the Survey; and I venture to hope that these may be accurately determined by Mr. Kidston at no distant date.

At Rosscliffe, a locality south of the letter B in Ballynacally, County Clare, on the one-inch Ordnance map, about three miles north-west of Killadysart, the somewhat rare and important fossil *Chenocardiola Footii* occurs with *Pterinopecten papyraceus*, *Glyphioceras reticulatum*, *Orthoceras*, and *Posidonomya membranacea*. *Chenocardiola Footii* occurs also in the Coddon Hill beds, Lower Culm, at the base of

the Pendleside series in Staffordshire, and somewhere near Burnley, probably below the Millstone Grits; and I regard the fossil as of zonal value.

Everywhere where the beds which lie immediately above the Carboniferous Limestone are seen, a definite change of fauna is found in the upper beds; and the following species occur for the first time in the sequence:—

| | |
|--|-----------------------------------|
| <i>Chenocardiola Footii.</i> | <i>G. reticulatum.</i> |
| <i>Pterinopecten papyraceus.</i> | <i>G. Davisi.</i> |
| <i>Posidoniella laevis.</i> | <i>Dimorphoceras Gilbertsoni.</i> |
| <i>P. minor.</i> | <i>D. discrepans.</i> |
| <i>Glyphioceras diadema.</i> | <i>Nomismoceras spirorbis.</i> |
| <i>G. diadema</i> var. with large umbilicus. | |

This fauna is well known, occurring as it does at Chokier, Belgium, in beds which are below the Coal Measures, and must lie close above the Visé limestone.

It is of great importance to note that, both in County Clare and at Chokier, *Glyphioceras diadema* is accompanied by a peculiar varietal form, with very large umbilicus, strong and often bifurcating ribs, and broad narrow whorls.

I have been fortunate enough to obtain specimens of each form exposing the sutures, and have submitted them to Mr. G. C. Crick, of the Natural History Museum, who writes me that he can only make them both to be *G. diadema*.

We also know that a similar fauna occurs in England in the Midlands, in beds which I have shown to occupy a definite position between the Mountain Limestone and the Millstone Grits, and which are here considerably thicker than they are in County Clare, reaching 1000 feet in thickness.

At the base of this series in England is a bed of *Prolescanites compressus* and *Posidonomya Becheri*, with some zaphrentoid corals; and I should expect to meet with these fossils in County Clare immediately below the *G. diadema* beds; but at present I have not been able to obtain these fossils in County Clare. *P. Becheri* occurs in County Dublin and County Meath with a similar fauna, and not far from the same horizon, so that I hope some day to meet with these fossils in County Clare, and merely give my opinion that they will be met with below the *G. diadema* beds.

In the palaeontological notes contained in the Explanatory Memoir to sheets 91 and 92 of the 1-inch maps, p. 23, Baily, speaking of the

lower beds of the Coal Measures strata, says:—"At some of the localities (before alluded to as junction-beds, *ante*, pp. 14, 22), the lowest of these, immediately over the Carboniferous Limestone, contain a characteristic bivalve aviculoid shell, *Posidonomya Becheri*, common to the Culm of North Devon, which occurs in profusion in a band of impure limestone or hard black shales, occupying the same position, and being in equal abundance at Garristown and Loughshinny, the overlying shales containing longitudinally-striated plant-remains, and goniatites."

There can be little or no doubt that the Upper Limestone Shales of County Clare are therefore the homotaxial equivalents of the Pendleside series of the Midlands of England, and belong to altogether a higher horizon than the Yoredales.

The earlier nomenclature of Coal Measures, although not accurate, was far preferable in Ireland to that of Yoredales, because, no doubt, the series passes up in an unbroken succession to beds of true Coal Measure age. The term "Upper Limestone Shales" seems, I think, to denote an affinity to the limestone in some way, and there is none either palæontological or lithological.

It is therefore important to recognise the real position of the Upper Limestone Shales in the west of Ireland, for their fossil contents afford the very strongest evidence of a similarity of conditions extending over an area which includes the east of Belgium and the west of Ireland. And further, the identity of stratigraphical sequence, the similarity of the fauna, and the presence of identical peculiar variations, afford the strongest proof that the homotaxial equivalents were contemporaneous. The Chokier series in Belgium does not appear to be very thick; and the whole series beneath the grits in County Clare is only 80 feet, so that Clare and Chokier appear to be almost the east and west limits of a basin, the beds of which are much thicker in the centre.

In the Midlands I have always considered *Glyphioceras spirale* to occupy a position somewhat high in the Pendleside series; it seems to occur some distance above the bullions with fossils at Foynes Island; and *G. reticulatum*, we know, passes up into the Millstone Grit series. This is evidently the case in County Clare; but I have no doubt that the olive grits and flags between the shales with *G. diadema* and the Coalfield, are the equivalents of the Millstone Grits; and in this connection I would mention that in certain localities—*e.g.*, the valley of the Hodder, which separates the Counties of Lancashire and Yorkshire—some of the grits there present similar tracts and

markings to those which are seen in the flags at Kilkee and near Lisconnor, to which the name of *Crassochoorda* has been given.

To sum up :—

1. The Pendleside series of the Midlands is well represented in County Clare.
2. These beds in County Clare are about 80 feet thick, and they lie conformably on the upper beds of the Carboniferous Limestone, which seems to have the same top all over the county, and in County Limerick.
3. The fossils are identical with those found at Chokier in Belgium and in the Pendleside series of England.
4. The fossils which characterise the lowest beds of the Pendleside series—viz., *Posidonomya Becheri* and *Prolecanites compressus*—have not yet been found in County Clare.
5. The series of grits and flagstones which overlie the Upper Limestone Shales are, as stated by the Geological Survey, the homotaxial equivalents of the Millstone Grits, and are largely marine in origin, several well-defined marine bands occurring in them, characterised by *Glyphioceras reticulatum*.

PALÆONTOLOGY.

CÉLENTÉRATA.

Zaphrentis: cf. *Z. Phillipsii*, Edwards and Haime. Pl. v., fig. 1, 1A.

This specimen has been sliced and studied for me by Mr. J. A. Howe, who writes that he considers it referable to the above species.

Locality—Puffing Hole, Kilkee. *Horizon* = Millstone Grit.

ECHINODERMATA.

Scaphiocrinus?

With regard to this species Dr. Bather writes: "To judge from the arm branching and the few cup-plates that are visible, one might refer it with some probability to the *Scaphiocrinida*."

Locality—Lower marine band, Puffing Hole, Kilkee. *Horizon* = Millstone Grit.

BRACHIOPODA.

Chonetes laguessiana, de Koninck. Pl. v., fig. 2.

This species occurs a good deal dwarfed; the different individuals show considerable variation in the strength of the ribs.

Locality—Upper marine band, Puffing Hole, Kilkee. Horizon = Millstone Grit.

Productus semireticulatus, Martin.

I think that there can be no doubt of the true affinity of these specimens from Kilkee, though they are much crushed.

Locality—Upper marine band, Puffing Hole, Kilkee. Horizon = Millstone Grit.

LAMELLIBRANCHIATA.

Pterinopecten papyraceus, Sow. sp. ♂ Pl. v., fig. 3.

This is a very well-known shell which occurs first at the base of the Pendleside series, and recurs at intervals to a point high up in the Coal Measures.

Localities—Ireland. The base of the shale series above the Carboniferous Limestone at Lisdoonvarna and Foynes Island (Horizon of the Pendleside series). Upper marine band, Puffing Hole, Kilkee (Horizon of Millstone Grit series).

Pseudamusium fibrillosum, Salter sp. Pl. v., fig. 4.

I obtained a small slab at Lisdoonvarna, with several specimens of both valves of Salter's shell. In England, this species ranges from the Pendleside series to the Coal Measures. In Ireland, the Geological Survey obtained specimens from Slieve Carna, Co. Mayo.

Locality—Lower beds of the Upper Limestone Shales, Lisdoonvarna, = Horizon of Pendleside series.

Posidonomya membranacea, M'Coy sp. Pl. v., fig. 5.

This shell is very abundant in shales some few feet above the limestone at the water-sink of the River Fergus, north-west of Corofin. The majority of the specimens were not full-grown. M'Coy's type came from Skerries or Rush, in beds of what I consider to be the equivalents of those in Co. Clare which contain this fossil.

Locality—Bank of River Fergus, at water-sink north-west of Corofin, = Horizon of Pendleside series.

Modiola megaloba, M'Coy = **Myalina foynesiana**, Baily. Pl. v., fig. 6.

In my monograph on British Carboniferous Lamellibranchiata, p. 62, vol. i., I pointed out that Baily has erred in referring his shell to *Myalina*, the absence of the striated hinge-plate at once separating it from that genus and also from *Nasadites*. Baily's specimen from Foynes is a cast of both valves, showing adductor muscle scars, and the simple linear hinge-plate. *Myalina*, however, does occur in the Foynes nodules.

Locality—Foynes Island, = Horizon of Pendleside series.

Myalina peralata, de Koninck. Pl. v., fig. 7.

Myalina has terminal umbones and a striated hinge-plate. *M. peralata* has been known to occur in the Pendleside series in England.

Localities—Foynes Island and Lisdoonvarna, = Horizon of Pendleside series.

Posidoniella lævis, Brown sp. Pl. v., fig. 8.

This most common and characteristic species occurs practically everywhere in England and Ireland in the shales which succeed the Carboniferous Limestone. This genus is easily distinguished from *Posidonomya*, with species of which genus Baily seems to have confounded it. *Posidoniella* has terminal umbones, and no anterior ear or lobe, and is obliquely pyriform in shape. This shell has a vertical distribution from the Pendleside series to the Lower Coal Measures.

Localities—Kilkee, = Horizon of Millstone Grit. Coor spa well, Ennis; Lisdoonvarna; Foynes Island, = Horizon of Pendleside series.

Posidoniella minor, Brown sp. Pl. v., fig. 9.

This shell is more quadrate and transverse than *P. lævis*. It appears to have the same vertical distribution.

Localities—Foynes Island; Coor spa well, Ennis; Lisdoonvarna, = Horizon of Pendleside series.

Parallelodon semicostatus, M'Coy sp. Pl. v., fig. 10.

The type of this series was obtained at Manorhamilton. It is not an uncommon species in the Yoredale phase of the Carboniferous Limestone series in England and Scotland, and also occurs in the Pendleside

series. The specimen from Kilkee is much crushed, but I have no doubt as to its identity.

Locality—Upper marine band, Puffing Hole, Kilkee, = Horizon of Millstone Grit.

***Nuculana stilla*, M'Coy sp. Pl. v., fig. 11.**

Several specimens of this little shell occur in the upper marine band at Kilkee. The type specimen came from Dromod, co. Leitrim. *N. stilla* occurs in the Pendleside series in England, but does not seem to be confined to that series.

Locality—Kilkee, = Horizon of Millstone Grit series.

***Cypricardella selysiana*, de Koninck. Pl. v., fig. 12.**

The species is not uncommon in the upper marine band, Puffing Hole, Kilkee, = Horizon of Millstone Grit.

***Chænocardiola Footii*, Baily sp. Pl. v., fig. 13.**

I regard this shell as an important zonal index. It occurs in beds of a similar age at Clavier, near Dinant, Belgium, and in Derbyshire and ? Lancashire. East and west of Ireland.

Locality—Roscliffe, County Clare, = Horizon of Pendleside series.

GASTROPODA.

***Macrocheilina reticulatum*, Brown sp., 1841. Pl. v., fig. 14.**

Pyramis reticulatum, Brown, 1841, Trans. Manch. Geol. Soc., vol. i, p. 288, pl. 7, figs. 42, 43, p. 13. *Loxonema Galvani*, Baily, 1860, Expl. sheet 147, Geol. Survey, Ireland.

Specific characters.—Spire elongate, composed of six whorls which increase fairly rapidly in size. The whorls are convex from above downwards; suture deep; aperture ovate; shell ornamented with longitudinal striæ, occasionally decussated by spiral lines.

Dimensions—Height, 5 mm. Breadth, 3 mm.

Localities—England: The Pendleside series of Crimsworth Dean, near Todmorden. Ireland: Beds immediately above the Carboniferous Limestone, Foynes Island.

Observations—Baily gave due attention to the alliance of his species with Brown's shell; and separated his shell, because he thought the last whorl was proportionately larger, and the surface was not

reticulate. These differences depend, the one on the growth of the individuals, and the other on the state of preservation. I have compared a large number of individuals from both localities, and am unable to recognise more than one species. Brown's name, therefore, is adopted on the grounds of priority.

Macrocheilina Gibsoni, Brown sp. 1841. Pl. v., fig. 16.

Buccinum Gibsoni, Brown, 1841. Trans. Manch. Geol. Soc., vol. i., p. 221. Pl. vii., figs. 48, 49. *Macrocheilina inflatus*, Baily, Expl. sheet 142, Geol. Surv., Ireland, p. 14, fig. 6.

Specific characters—Shell small; last whorl ventricose. Spire of four or five whorls, the last comprising two-thirds of the shell. The apex acute. The whorls are convex; the suture moderately deep and simple. Aperture oblong, ovate; outer lip sharp, raised where it joins the columella. Surface ornamented by fine vertical lines of growth.

Dimensions—Height, 4 mm.; breadth, 3 mm.

Localities—England: The Pendleside series of High Greenwood, near Todmorden. Ireland: Shales immediately above the Carboniferous Limestone at Foynes Island.

Observations—I have no doubt that Baily's shell is identical with the *Buccinum elegans* of Brown, having compared numerous individuals from both localities. The same fauna occurs in both localities, as is pointed out by Baily (*op. supra cit.*). *Macrocheilina elegans* sp. is closely allied; but the spire does not increase so rapidly, and the whorls are not so convex.

Macrocheilina elegans, Brown sp. 1841. Pl. v., fig. 15.

Buccinum elegans, Brown, 1841. Trans. Manch. Geol. Soc., vol. i., p. 221. Pl. vii., figs. 50, 51.

Specific characters—Shell small, elongate, ovate; spire consisting of four to five gradually diminishing whorls, of which the last forms about half the shell. Whorls moderately convex; suture moderately deep. Aperture ovate, simple. The surface is almost smooth; but the microscope reveals vertical lines somewhat distant.

Dimensions—Height, 9 mm.; breadth, 7 mm.

Localities—England: The Pendleside series of High Greenwood, near Todmorden. Ireland: Shales immediately above the Carboniferous Limestone, Foynes Island.

Observations—This shell, described by Brown, is more elongate, and comparatively less ventricose than *M. Gibsoni*. I only found two specimens at Foynes Island.

Loxonema strigillatum, de Koninck, 1881. Pl. v., fig. 17.

Loxonema strigillatum, de Koninck, 1881. Ann. Mus. Roy. d'Hist. Nat. Belge, tom. vi., p. 53. Pl. vi., fig. 23.

Specific characters—Shell small, elongate. Spire consisting of 9–12 whorls, which are only slightly convex. The suture is linear, and marked by a compressed, almost linear, band. The surface is ornamented by small, close, oblique ridges, which are better marked in the younger portion of the shell, and become obsolete on the larger whorls.

Dimensions—Height, 8 mm.; breadth, 3 mm.

Locality—The marine band in the cliff about 1 mile north-west of Kilkee, = Horizon of Millstone Grits.

Observations—I have not met this shell before in the British Isles. De Koninck's species was obtained at Visé.

Ptychomphalus pisum, de Koninck, 1883. Pl. v., fig. 19.

Ptychomphalus pisum, de Koninck, 1883. Ann. Mus. Roy. d'Hist. Nat. Belge, tom. viii., p. 41. Pl. xxxi., figs. 57–61.

Specific characters—Shell small; conical spire, consisting of four whorls, the last of which occupies the greater part of the shell; suture angular and shallow. Band of sinus comparatively broad; marginal in the last whorl, the portion of the whorl below it being flattened, that above it convex. The shell is ornamented by numerous raised, somewhat arched, transverse folds, which only pass about one-third of the distance between the suture and the lower margin of the band of the sinus. Elsewhere the surface is smooth.

Dimensions—Height, 6 mm.; breadth, 4 mm.

Locality—The upper marine band, Puffing Hole, Kilkee; and the marine band 1 mile north-west of Kilkee, = Horizon of Millstone Grit.

Observations—This species has not been previously met with in the British Isles.

Ptychomphalus interstitialis (?), Phillips sp. 1840. Pl. v., fig. 18.

Pleurotomaria interstitialis, Phillips, 1840. Geol. Yorks.,
part ii., p. 227. Pl. xv., fig. 10.

Specific characters—Shell below medium size; spire pointed, of five angular whorls which expand rapidly, so that the last is tumid, and comprises a little more than half the shell. The band of the sinus is narrow, bounded by strong keels, the upper forming the margin of the whorl. The portion of the whorl above the band has several strong spiral striæ, and is convex; that part below the band is almost flat, and rapidly contracted towards the suture, which is linear, and is covered by five spiral ridges decussated by curved transverse lines so strongly as to give rise to rows of tubercles.

Dimensions—Height, 5 mm.; breadth, 6 mm.

Locality—The upper marine band, Puffing Hole, Kilkee, = Horizon of Millstone Grit.

Euphemus Urei, Flem. sp.

I got two specimens of this shell from the marine band 1 mile north-west of Kilkee.

CEPHALOPODA.

Orthoceras Steinhaueri, Sow. Pl. v., figs. 20 and 21.

This species tapers very gradually, and has very deep chambers. Externally the shell is ornamented with moderately close transverse linear ridges.

Localities—England: The Pendleside series of High Greenwood, near Todmorden; above the Hardbed Coal, Halifax; above the Bullion Coal of Lancashire. Ireland: The shales immediately above the Carboniferous Limestone, Foynes Island.

Orthoceras koninckianum, d'Orb. Pl. v., fig. 22.

This species is easily recognised by its rapid taper and annulated surface, covered by fine parallel, transverse, close-set lines.

Localities—England: The Pendleside series of Cumsworth Dean, near Hebden Bridge. Ireland: Shales immediately above the Carboniferous Limestone, at Foynes Island and Fishergate; Marine band at Puffing Hole, Kilkee. Belgium: Chokier.

Orthoceras aciulare, Brown, 1860. Pl. v., fig. 23.

Orthoceras aciulare, Brown, 1860. Trans. Manch. Geol. Soc., vol. i., p. 220. Pl. vii., fig. 39. *O. minimum*, Baily, 1860. Expl. sheet 142, Geol. Surv., Ireland, p. 13, fig. 3.

This species is very small, with a very gradual taper; septa moderately close, and slightly convex; surface smooth.

Locality—Very abundant at Foynes Island and Lisdoonvarna. Small orthoceratites, which probably belong to the same species, are common in the Pendleside series of England. Brown's example came from near Todmorden.

Observations—Tiny fragments of the young shell of a slender *Orthoceras* are very common at Foynes Island. These are, I expect, the terminal portions of *O. ascicularis*. Brown, however, describes, as occurring with this species, another very small one, *O. microscopicum*. It is possible that *O. pygmaeum* de Koninck, from Chokier, may prove to be identical with Brown's species.

Orthoceras acutum sp. nov. Pl. v., figs. 24, 25.

Specific characters—Shell straight; section circular; rate of tapering 1 in 4, but more rapid near the apex, which is actually pointed. Septa numerous and close. Septuncle not seen. Surface apparently smooth. Shell thin.

Locality—The shales immediately above the Carboniferous Limestone, Lisdoonvarna.

Observations—This species differs from those associated with it by its rapid rate of taper and pointed apex. The largest example I obtained measures 37 mm.

NAUTILIDÆ.

Cœlonautilus quadratus, Flem. sp., 1828. Pl. vi., figs. 1, 1a.

This species is not common, but has been obtained from the Coal Measures in England, and the Lower Limestone group in Scotland. I have never met with it previously in the Pendleside series.

Locality—Foynes Island.

Solenocœilus sp. ?

A large compressed example was obtained by me from the upper marine band, Puffing Hole, Kilkee. Unfortunately it is not sufficiently well preserved for definite determination.

GLYPHIOCERATIDÆ.

Glyphioceras (*Beyrichoceras*) *reticulatum*, Phillips. Pl. vi.,
figs. 2, 3, 4, 5, 6.

Observations—This species varies very considerably in the size of its umbilicus and its ornament according to age. In the young, the umbilicus is very wide, the whorls showing little or no inclusion; and the ornament consists of transverse, broad, rounded ribs, separated by a sulcus, stronger on each margin, but carried round the periphery. Later on, the ribs on the periphery become obsolete, but remain on the lateral area; and the periphery becomes reticulate, and often there is a deep median peripheral sinus. This condition is the *Gastrioceras circumplicatile* of Foord. The umbilicus contracts; and the lateral ribs now become obsolete, the whole shell being ornamented by close fine reticulations. Still later, below the margin of the periphery, the transverse striae become strongly arched forwards; and the umbilicus in full-grown examples becomes smaller, and its marginal lines elevated. The aperture of the adult shell is sinuous, concave at the periphery; a broad, tongue-like projection on each side below the peripheral margin, below which the aperture curves backwards, and then forwards to end at the umbilical margin. Early characters may persist in some specimens; and hence the variety of form and ornament of the shell, and the size of the umbilicus. It is not surprising that the synonymy of this species is extensive.

Localities—England: The Pendleside series. Ireland: Foynes Island; Cliffs of Moher, near Fishergate; Coor spa well, near Ennis, = Horizon of Pendleside series. Puffing Hole, Kilkee; Cliffs of Moher below O'Brien's Tower, = Horizon of Millstone Grits.

Glyphioceras (*Beyrichoceras*) *Davisi*, Foord and Crick, 1897.

Pl. vi., fig. 7.

Glyphioceras Davisi, Foord and Crick, 1897. Cat. Foss. Ceph.

Brit. Mus., p. 198, pl. iii., fig. 95.

This shell is easily distinguished from all others by its acute angular periphery and its undulating sides, and the elevated angular margin to its umbilicus. The test is thin and crenulato-striate. The acute margin is an adult character, and is not so well seen in young examples.

Localities—England: Above the Hardbed Coal, Halifax. Ireland: Foynes Island; Coor spa well, near Ennis, = Horizon of Pendleside series; Puffing Hole, Kilkee, = Horizon of Millstone Grits.

***Glyphioceras (Beyrichoceras) Phillipsii*, Foord and Crick, 1897.**

Mr. Crick has kindly identified these specimens for me. The shell attains a fair size, and has an aperture of the same shape as *G. reticulatum*. In the adult the margin of the periphery becomes almost angular, with two spiral grooves below it, like the form of *G. bilingue*. The ornament is not reticulate, but crenulato-striate. It occurs in the Pendleside series in England.

Locality—Ireland: Lisdoonvarna, = Horizon of Pendleside series.

***Glyphioceras (Beyrichoceras) spirale*, Phillips. Pl. vi., fig. 8.**

This species has not yet been obtained uncrushed. It is characterized by its ornament of regular spiral lines. The species is an important zonal index.

Localities—England: The lower Culm of Devon, and the Pendleside series of the Midlands. Ireland: Loughshinny, co. Dublin; Summerhill and near Trim, co. Meath; Killorglin, co. Kerry; Beds above the *Glyphioceras reticulatum* beds, Foynes Island, = Horizon of Pendleside series.

***Glyphioceras (Beyrichoceras) diadema* (?), Beyrich. Pl. vi., figs. 9–15.**

This species is somewhat unsatisfactory, and includes a number of forms of very varied appearance. It is of great interest that these forms occur with a similar fauna at Chokier, Belgium, and Lisdoonvarna and Foynes in Ireland, in beds immediately above the Viséan stage of the Carboniferous Limestone. In the adult the shell has a moderately wide umbilicus, transverse parallel ridges which become more and more obsolete with age. In the young the umbilicus is very wide, inclusion almost nil, and the ridges are fewer, stronger, and more acute, and there is an angular keel at each margin of the periphery. At times this condition persists in the adult, and in a large collection many intermediate forms occur.

***Glyphioceras (Beyrichoceras) divaricatum* sp. nov. Pl. vi., fig. 16.**

Specific characters—Shell discoidal; umbilicus small, greatest thickness near the edge of umbilicus; whorls (? number), inclusion nearly complete.

The test is ornamented with flattened transverse ribs, separated by narrow sulci, each rib bifurcating a little distance from the umbilicus. These ribs are arched forward in the upper part of the lateral margin.

Diameter of shell—21 mm.

Localities—Foynes and Foynes Island; shales north of Lisdoonvarna, = Horizon of Pendleside series.

Observations—I have known this shell for some time from crushed examples from the Pendleside series in England. A mutilated but not entirely crushed example (fig. 16, pl. vi.) occurred to me from Foynes Island, and two or three other examples from the mainland of Foynes. I showed the specimens to Dr. A. H. Foord, who said he had met with crushed specimens, and considered the species to be new. It may, however, prove to be merely a variety of *G. diadema*, in which the ribs bifurcate, and, though not flat, vary considerably in number, size, and approximation.

Dimorphoceras Gilbertsoni, Phillips sp. Pl. vi., fig. 17.

This species is very common, but has not been previously noted in Ireland. In England it ranges from the Pendleside series to the Coal Measures (inclusive). It is also found at Chokier, Belgium.

Localities—Foynes Island; Lisdoonvarna, = Horizon of Pendleside series.

Dimorphoceras discrepans, Brown sp. Pl. vi., fig. 18.

This species is smaller, more globose, the umbilicus more minute, than *D. Gilbertsoni*. The two shells always occur together, and have the same vertical range and distribution. The suture line is, however, very different.

Localities—Foynes Island; Lisdoonvarna, = Horizon of Pendleside series.

Homismoceras spirorbis, Phillips sp. Pl. vi., fig. 19.

This is a very small shell, with a very wide umbilicus, and no ornament. It occurs in the Culm of Devon and the Pendleside series of England.

Localities—Foynes Island; Lisdoonvarna, = Horizon of Pendleside series.

PISCES.

Polyrhizodus, sp. Pl. vi., fig. 20.

This tooth occurred in the lower marine band of the Puffing Hole, Kilkee, = Horizon of Millstone Grit. Dr. Smith Woodward has kindly identified it for me.

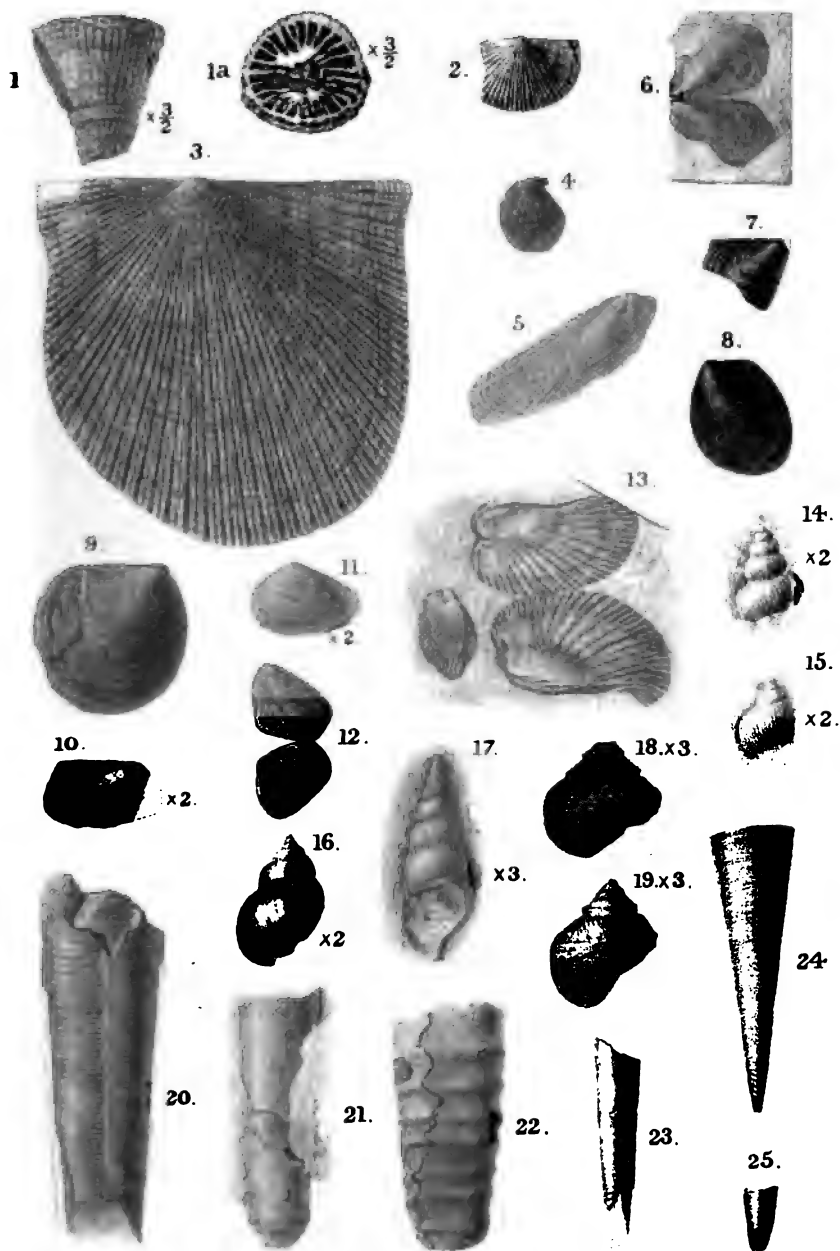
EXPLANATION OF PLATE V.

Figs. 1, 1A. *Zaphrentis Phillipsii*, E. & H.: Kilkee; $\times \frac{1}{2}$. 2. *Chonetes laguessiana*, de Kon.: Kilkee. 3. *Pterinopecten apyraccus*, Sow. sp. 4. *Pseudamysium fibrillosum*, Salt. sp.: Lisdoonvarna. *5. *Posidonomya membranacea*, M'Coy: the type specimen. *6. *Modiola megaloba*, M'Coy: Foynes Island. 7. *Myalina peralata*, de Kon.: Foynes Island. 8. *Posidoniella laevis*, Brown sp.: Foynes Island. 9. *Posidoniella minor*, Brown sp.: Foynes Island. 10. *Parallelodon semicostatus*, M'Coy sp.: Kilkee; $\times 2$. 11. *Nuculana stilla*, M'Coy sp.: Kilkee; $\times 2$. 12. *Cypricardella selysiana*, de Kon.: Kilkee. *13. *Chaenocardiola Footii*, Baily sp.: Rosscliffe. 14. *Macrocheilina reticulatum*, Brown sp.: Foynes Island; $\times 2$. 15. *Macrocheilina elegans*, Brown sp.: Foynes Island; $\times 2$. 16. *Macrocheilina Gibsoni*, Brown sp.: Foynes Island; $\times 2$. 17. *Loxonema strigillatum*, de Kon.: Kilkee; $\times 3$. 18. *Ptychomphalus interstitialis* (?), Phill.: Kilkee; $\times 3$. 19. *Ptychomphalus pisum*, de Kon.: Kilkee; $\times 3$. 20, 21. *Orthoceras Steinhaueri*, Sow: Foynes Island. 22. *Orthoceras koninckianum*, d'Orb.: Foynes Island. 23. *Orthoceras aciculare*, Brown: Foynes I. 24. *Orthoceras acutum* sp. nov.: Lisdoonvarna. 25. *Orthoceras acutum*; showing chambers: Lisdoonvarna.

EXPLANATION OF PLATE VI.

Figs. 1, 1A. *Calonautilus quadratus*, Flem. sp.: Foynes Island. 2, 3, 4, 5, 6. *Glyphioceras reticulatum*, Phill.: Foynes Island; showing stages of growth (fig. 2 $\times 4$, fig. 3 $\times 2$). 5, 6. Portions of same shell. 6, showing the form of the aperture. 7. *Glyphioceras Darisi*, Foord and Crick: Foynes Island. 8. *Glyphioceras spirale*, Phill.: Foynes Island. 9–12. *Glyphioceras diadema* (?), var. with large umbilicus and coarse ribs: Lisdoonvarna. 13–15. *Glyphioceras diadema*, Beyr.: Lisdoonvarna. 16. *Glyphioceras divaricatum* sp. nov.: Foynes. 17. *Dimorphoceras Gilbertsoni*, Phill. sp.: Lisdoonvarna. 18. *Dimorphoceras discrepans*, Brown sp.: Lisdoonvarna; $\times 2$. 19. *Nomismoceras spirorbis*, Phill. sp.: Foynes I.; $\times 4$. 20. *Polyrhizodus* sp.: Kilkee.

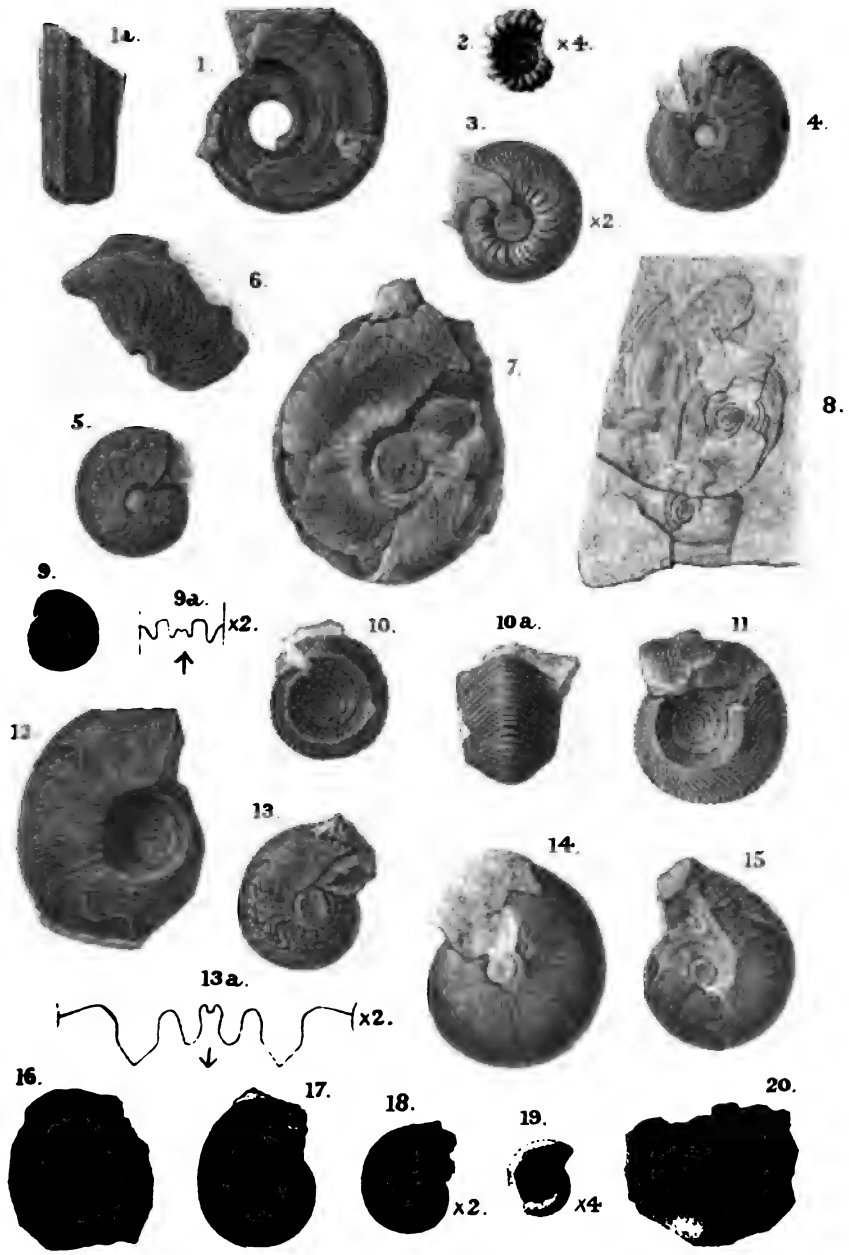
N.B.—All specimens are in the writer's collection except those marked *, of which fig. 5 is in the Griffith collection, and figs. 6 and 13 are in the collection of the Geological Survey of Ireland.



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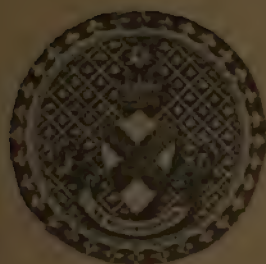
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V.

ON THE GROWTH OF CRYSTALS IN THE CONTACT-ZONE
OF GRANITE AND AMPHIBOLITE.

BY GRENVILLE A. J. COLE, M.R.I.A., F.G.S.,

Professor of Geology in the Royal College of Science for Ireland.

Read APRIL 10. Ordered for publication APRIL 12. Published MAY 1, 1905.

IN 1893 Professor W. J. Sollas presented to the Royal Irish Academy his conclusions on the relations of granite and gabbro at Barnavave; and the first publication of them¹ marks an important step in the petrography of the British Isles. Though his work at Carlingford is still met in certain quarters by the assertion of a theory of strictly local differentiation, yet the immense change of opinion that has taken place in regard to the nature and extent of contact-metamorphism has been continuously in favour of his views. The school of Michel-Lévy, Barrois, and Lacroix, despite the serviceable criticism which has been directed on it, has proved its contentions in area after area, and notably in those regions where other modes of thought have long prevailed.

While the occurrence of basic igneous masses traversed by veins of granite may in many cases be due to a separation of material in a single caldron down below, this separation remains, in the vast majority of cases, a pure assumption. It has been fashionable—and the term may be used with all seriousness—to suggest a common origin for all the igneous rocks of a district, without regard for the endless chances offered for the admixture of any given rock with

¹ “On the Origin of Intermediate Varieties of Igneous Rocks by Intrusion and Admixture, as observed at Barnavave, Carlingford,” Rep. British Assoc., 1893 (1894), p. 765. The full statement of results is in Trans. R. I. Acad., vol. xxx. (1894).

earlier masses, sedimentary or igneous, as it flows. Mr. Harker,¹ however, has recently shown that he fully realises the composite origin of many rocks that become thrust up towards the surface; and the complexity of subterranean masses becomes more clearly forced upon us as we leave volcanic districts for those in which some "batholite" lies exposed.

In 1893 Professor Sollas² also described the modification of an amphibolite near Glendalough, in County Wicklow, by veins of quartz, which contain potash-felspar, and which traverse the adjacent schist. I have had the advantage of collecting from this spot on two occasions under Professor Sollas's guidance, and fully agree that the highly siliceous veins are the cause of the alterations and added materials in the basic rock, which, in its original state, "consists almost entirely of hornblende." In view, however, of the nature of the changes, and their parallelism with those occurring in basic rocks enveloped by granite, I cannot help thinking that the amphibolite of Glendalough penetrated the schists before the upwelling of the last granite of the district, and that the quartz-mica-diorite is a composite rock due to direct interaction and admixture. Professor Sollas's views are given more fully in a second paper,³ in which he goes, as I venture to think, somewhat out of his way to suggest that the varied types of igneous rock in the Leinster chain have arisen from one primordial magma-basin.

In the cases about to be described, it is not necessary to make any such assumption; nor would it, if put forward, bear upon the principal question of the production of new rocks by admixture. As in the case dealt with by Professor Sollas at Glendalough, and in others recorded from the county of Donegal,⁴ massive amphibole usually degenerates, under contact-alteration, into actinolitic fibres, and ultimately into biotite. Much of the biotite-gneiss of north-west Ireland thus arises from the absorption of hornblende-schist and garnet-amphibolite by granite. But occasionally a new stimulus, as

¹ "The Tertiary Igneous Rocks of Skye," *Mem. Geol. Survey* (1904), pp. 177, 186, 219, &c.

² "On the Transformation of Amphibolite into Quartz-Mica-Diorite," *Rep. Brit. Assoc.*, 1893 (1894), p. 765.

³ "On the Geology of Dublin and its Neighbourhood," *Proc. Geol. Assoc.*, vol. xiii. (1893-4), p. 111.

⁴ G. Cole, "Metamorphic Rocks in East Tyrone, &c.," *Trans. R. I. Acad.*, vol. xxxi., p. 456; also *Proc. R. I. Acad.*, vol. xxiv., sect. B, p. 366.

it were, is imparted to the material that is capable of crystallising as amphibole; and the mineral develops on a far bolder scale than was exhibited in the original rock. Something of the kind is traceable in composite specimens from the mass at Glendalough in County Wicklow, although in the end an excessive development of biotite has set in. The hornblende was for a time regenerated, but tended rather towards actinolite; and the larger crystals are now partly replaced by a multitude of flakes of mica. Dr. F. Katzer¹ has recently noted in a Bohemian instance how pegmatite dykes seem more common in amphibolites that are rich in garnet than in those that are poor in garnet, and how their junctions are very commonly accompanied by hornblende crystals of exceptional size. The first remark reminds one of the frequent association of garnet-amphibolites with granite in north-west Ireland. In these cases the presence of the garnets seems due to the influence of the intrusive mass on a mixed aphanitic and sedimentary series. Garnet-amphibolite, from this point of view, is practically always a product of contact-metamorphism; and the more abundant the veins of pegmatite or granite, the more garnet arises in the invaded mass. Garnet has certainly developed, in sharply-edged rhombic dodecahedra, in the altered amphibolite of Glendalough, and arises very possibly from associated patches of schist; while at Castleore, south of Lough Gill, I have lately found that the enveloped amphibolite² becomes very notably coarser when seriously attacked by granite. The crystals of garnet, as well as of hornblende, run together, it would seem, under the stimulating influence of the granite, producing a rock of very conspicuous grain.

Near the mouth of the Gweebarra in western Donegal, the granite magma has invaded certain amphibolites of the "Dalradian" series, without producing garnet. This fact in itself supports the suggestion that an admixture of aluminous sedimentary material is requisite for the development of ordinary eclogite and garnet-amphibolite by contact-action. The interest of the Gweebarra cases lies, however, in the coarseness of the resulting quartz-amphibole-diorite in comparison with the grain of the diorite or amphibolite that has been attacked.

On Sheet 15 of the Geological Survey Map of Ireland, two dykes

¹ "Die Magneteisenerzlagerstätten von Maleschau und Hammerstadt," Verhändl. d. k. k. geol. Reichsanstalt, 1904, p. 199.

² This contact was originally described in Proc. R. I. Acad., vol. xxiv., sect. B, p. 364.

of "felstone" are shown traversing a basic Dalradian rock at the old stone fort in Cor, above the Gweebarra. These are in reality formed of coarse aplitic granite, and stand out on the little hill like two great walls. The basic rock is an amphibolite, seemingly free from felspar, and with a specific gravity of 2.95. In its earliest condition it was probably of greater specific gravity, and was a pyroxene peridotite, since a number of pale green ovoid pseudomorphs, optically embedded in the hornblende, and now largely composed of fibres of actinolite, have the form and character of altered olivine (fig. 1).



FIG. 1.—Section of amphibolite of Cor, Co. Donegal, showing traces of ophitic structure. The pale spaces are occupied by actinolite, associated with magnetite; the fibres of actinolite are sometimes in continuity with those of the darker hornblende round it. $\times 9$.

This rock broke through the schist-series, and includes blocks removed from it. In turn it was invaded by the granite, which appears in force on the neighbouring bare ridge of Truskleeve, and which comes up in veins and patches through the Dalradian series all across the intervening lowland. At the contact, the basic mass is distinctly "granitised," with frequent addition of pyrite. Sphene and epidote appear in it, the latter at times including allanite. Allanite is also present in brown independent grains. But the principal changes are

the production of brown mica, which is so frequently a contact-product of amphibole, and the addition to the mass of quartz and repeatedly twinned oligoclase. Ill-defined knots of the original amphibolite remain in the composite or reconstructed mass; but the typical hornblende of the latter is a recrystallised product, and is thus an essential part of the new quartz-diorite that has been formed. This composite rock retains as high a specific gravity as 2.93, which is partly due to addition of pyrite, and preserves a very basic aspect when viewed with the naked eye. Where traversed by granite



FIG. 2.—Section of composite rock (fine-grained specimen) formed by intrusion of granite into amphibolite, Cor, Co. Donegal. The large crystal of hornblende on the right shows two stages of secondary growth outward from the dusky central region. Completely recrystallised idiomorphic hornblende is abundant in the rock. Brown biotite has arisen freely in the hornblende. $\times 9$.

veins, however, it becomes an obviously "dioritic" mass in Häuy's sense. Its composite character is still suggested by the spread of quartz and felspar from the granite in sporadic patches, and not in uniform distribution; but the hornblende has become still further regenerated, and has shot out into crystals often 10 mm. and sometimes 18 mm. long. The introduction of alkali-felspar, largely orthoclase, from the granite magma makes this handsome marginal rock virtually a hornblende-granite. Its specific gravity is 2.85, and

would be lower if the pyrite could be eliminated. By differences of colour in successive growths and zones, the nucleus of older hornblende, and the later additions to it, can be sometimes traced. The last stage consists in the formation of brown mica, which spreads in some places along the cleavage planes of the hornblende, and in other places, perhaps in the same crystal, along irregular cracks that have developed (fig. 2). Had the process continued, irregular nests of mica would have arisen in an environment of granite. Mr. Harker¹ has recently suggested that the addition of alkali from a granite magma promotes in such cases the growth of biotite in place of hornblende.

In 1904, I was able to observe similar features, on a still bolder scale, on the north face of the crest of Cashel Hill, south of the Gweebarra, and five miles west of Cor.² The hornblende-rock attacked by the granite is again practically devoid of felspar, and has a specific gravity of 3.06. The biotite that appears in it increases in prominence near the granite, and is, I think, entirely secondary. At the same time, the hornblende, which is allowed a certain freedom in its new environment, becomes clearly idiomorphic, and ultimately, in the stimulating contact-zone, forms prismatic crystals 20 mm. and even 25 mm., long. Here a lime-soda felspar, at least as basic as andesine, appears side by side with orthoclase. Pyrite is abundantly developed in this zone, again illustrating the association of mineral-veins with surfaces of metamorphic interaction.

The composite rock itself has remained, however, wonderfully fresh; and the deposition of iron sulphide was doubtless contemporaneous with its formation.

Two feet from the visible junction, which here is obviously not a sharp one, the granite of Cashel Hill remains highly charged with material from the amphibolites; and its specific gravity is as high as 2.75. Biotite and epidote are abundant in it; and, eastward along the hill-top, it is still to some extent darkened by absorption of material from the Dalradian series.

A mile and a quarter south, on the north-west flank of the granite dome of Ardara, the granite has, over a wide area near Summy Lough, the speckled character of a composite and modified rock.³ Patches of biotite, hornblende, and epidote lie in a coarser ground of

¹ "The Tertiary Igneous Rocks of Skye," Mem. Geol. Survey, p. 171.

² For this granite, see G. Cole, "Composite Gneisses in Boyleagh," Proc. R.I.A., vol. xxiv., sect. B. (1902), p. 208.

³ Cf. Harker, *op. cit.*, p. 182.

microcline and quartz; and sphene and allanite again are present. The quartz has developed in this rock in spheroidal blebs in advance of the microcline, which thus encloses it optically. Something similar to this relation between quartz and microcline has been noted by Prof. Sollas in the soda-granites of the Leinster chain.¹

Of greater interest, near Summy Lough, are the lumps of earlier diorite and garnet-amphibolite enclosed in the later basic rocks, both series being now modified by granite veins. The earlier diorite consists of hornblende, magnetite, and basic labradorite, and weathers away more easily than the later one, leaving little pits upon the surface. I have elsewhere² commented on the similarity of these features to those described by Mr. Harker from the far more recent and more volcanic series which has been so admirably investigated by him in Skye.

It will be seen, then, that the coarseness of grain of a composite rock cannot depend upon conditions of pressure alone, but that a certain stimulus is given to the recrystallisation of older basic material, be it amphibole or garnet, by the invasion of a molten granite mass. This mass, when it finally consolidates, may itself remain of medium grain; it may therefore be conceived that the continuous passage of heat outward from it into the contact-zone maintains the rock attacked in a favourable condition, and promotes the growth of certain mineral species. The contrast between this effect and the production of a granular mosaic in ordinary "epidiorites" enables us in some degree to judge between the results of igneous and dynamic metamorphism. It is obvious from the form and grouping of the later amphiboles of Cor and Cashel Hill that no dynamic changes of importance have taken place in the area since the intrusion of the granite which stimulated their growth.

¹ "Preliminary Account of the Soda-granites of Co. Wicklow," *Sci. Proc. R. Dublin Soc.*, vol. vi. (1889), p. 267, and "Granites of Leinster," *Trans. R. I. A.*, vol. xxix. (1891), p. 509.

² "The Heart of Skye," *Nature*, vol. lxx. (1904), p. 507.

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The Academy
PROCEEDINGS

OF THE

ROYAL IRISH ACADEMY

VOLUME XXV., SECTION B, No. 6

GEORGE H. PETHYBRIDGE AND
ROBERT LLOYD PRAEGER

THE VEGETATION OF THE DISTRICT
LYING SOUTH OF DUBLIN



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the fifth map required to complete the projected survey is stated to be in progress (13).

In England considerable areas in the north of the country have been botanically surveyed. Wm. G. Smith and Moss published a paper, with a map, on the distribution of the vegetation in the Leeds and Halifax district of Yorkshire in 1903 (14); and later in the same year Wm. G. Smith and Rankin described and mapped the vegetation of the Harrogate and Skipton district (15) of the same county. In the following year Lewis (16) published two papers and maps on the distribution of vegetation of the basins of the rivers Eden, Tees, Wear, and Tyne.

In these maps the different areas occupied by the associations are marked in colours. In R. Smith's map of the Edinburgh district twelve such colours are used; in that of Northern Perthshire, seventeen; in Fife, fourteen; and in Forfar, seventeen types of vegetation are represented. In Yorkshire, Wm. G. Smith differentiates sixteen types; and Lewis's maps record nineteen and twenty-one types, respectively. The scale in the case of the Scotch and Yorkshire maps is that of two miles to the inch; in Lewis's maps one mile to the inch. These scales, however, represent only those chosen for publication, the actual field-mapping being done on the Ordnance Survey maps of one inch to the mile, or on those of six inches to the mile. These coloured maps, and the explanatory texts published with them, form a very valuable addition to our knowledge of the vegetation of the districts concerned. In addition to the foregoing, a beginning has been made in work of this kind in the neighbourhood of Cambridge. Part II. of a paper on the flora of the Cambridge district by Wallis (17), prepared in view of the visit of the British Association for the Advancement of Science to Cambridge in the summer of 1904, is occupied with an account of the plant associations found in the district; and a coloured map on a small scale (the exact scale is not stated) is appended, in which eight types of vegetation are included.

For comparatively large areas, probably the largest scale on which it will be found practicable to publish a vegetation map will be that of one inch to the mile. This being so, many of the smaller plant associations, which can be easily recognised in the field and surveyed on a map of a larger scale, must, on account of their small area, be necessarily omitted from the map. For limited areas, however, maps on a larger scale may be published; and this has been done by Gaut (18) in his detailed study on the botanical survey of a pasture. Woodhead (19), too, in a paper read before Section K of

the British Association at its meeting in Cambridge in 1904, exhibited maps constructed on a larger scale. Perhaps the most detailed large-scale mapping that has been attempted is that which has been carried out on the coast of Brittany by Oliver and Tansley, whose methods of mapping are described and illustrated in the *New Phytologist* (20). As regards Ireland, the present paper and the accompanying map represent, so far as we are aware, the first attempt at a detailed study of the distribution over any considerable area in this island.

It will be seen from the foregoing brief summary, that a good beginning has been made in the study of the vegetation of the British Islands. With a view of promoting further research in this direction, a committee has been formed to secure co-operation and co-ordination in the work, information concerning which will be found in the *New Phytologist* and in the *Irish Naturalist* (21).

The determination and the mapping of plant associations, with which we have been chiefly concerned up to this point, are the first steps to be taken in studying the vegetation of any area. And just as a knowledge of the flora of a district is a preliminary necessity in defining the associations therein, so a knowledge of these associations must precede the study of the deeper problems of ecological plant-geography in general. What these problems are, is well set forth by Tansley in an address to Section K of the British Association, at the Cambridge Meeting, 1904 (23). The first stage in the study of plant associations must of necessity be *descriptive*; and it is with this—the ecological survey—stage that we have mainly to deal in the present paper. The ultimate end of the study, however, is to know *why* and *how* the associations exist. In this connexion valuable information is yielded by the study of the structural organisation of the plants themselves. To say that there is a close correlation between plant-structure and plant-environment is merely to repeat a platitude; and a very great deal of work has been published in recent years, dealing with plant-structure from the ecological point of view, which it is beside our purpose to mention in detail here, but which will be found summarised in the excellent text-books of Warming and Schimper alluded to above, as well as in others.

As regards the more purely physiological problems concerned, a wide and almost untrodden field for investigation lies before us. How small is our knowledge of the physiological processes taking place in the individual plants of our associations, especially from a quantitative point of view! What do we know, for example, of the actual

amount of water absorbed or transpired by our various xerophytic, mesophytic, and hydrophytic plants, of the relative intensities of photosynthesis, respiration, &c., in sun and shade plants? Such questions can be satisfactorily answered only by experiments made with the plants of the associations under their natural conditions of environment; and the establishment of a Desert Botanical Laboratory by the Carnegie Institution in the United States of America (24) is a step in advance towards the attainment of such knowledge. Experimental work of this kind in the field has also been begun in Sweden, where Hesselmann (25) has studied quantitatively and *in situ* the intensity of photosynthesis, respiration, and transpiration in the plants composing certain associations (löfängar), and has obtained interesting and important results. We notice, too, that Woodhead, in his work, is making provision for experimental work *in situ*, by erecting suitable huts for research work in the woodlands which he is studying.

As mentioned above, however, the present paper is almost entirely confined to the descriptive ecological survey of the area in question, the physiographical and other features of which we shall now proceed to consider.

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GEOLOGY AND PHYSIOGRAPHY.

The district to which the present paper refers comprises an area of some 200 square miles of land surface. Its eastern boundary—the only natural one—is formed by the waters of the Irish Sea. On the north it is bounded by a straight line running some twelve miles, due westwards, inland from the mouth of the River Liffey along the south-eastern edge of the great central limestone plain of the country. The southern boundary is formed by a line running inland from the coast, just south of Bray Head, due westwards, for some seventeen miles, to a point (Liffey Cottage) about one mile and a half north-east of the village of Blessington, the line thus traversing the northern end of the Wicklow Mountains. The western boundary is a line running due north and south, principally along the limestone plain, from Liffey Cottage to a point between Leixlip and Celbridge, and passing through the village of Newcastle. A glance at an ordinary map of this district will show therefore that, speaking generally, it consists of a single, broad physiographical contrast between plain on the north and north-west, and mountain on the south.

This southern part embraces the northern end of the Leinster granite chain, which extends thence south-westwards for sixty or seventy miles. These granites are of post-Ordovician and pre-Carboniferous age; and it has been suggested by Professor Sollas that they were formed as an immense laccolite, with an Ordovician cover and a Cambrian floor. It is certain that the advent of Carboniferous times found denudation already so far advanced that the granite was exposed, and the Cambrians stripped of their Silurian covering, for rocks of Carboniferous age are to be seen resting directly on both. The area included in our map, then, presents in the south a solid mass of granite (which rises to 2473 feet in Kippure), flanked by Cambrian and Ordovician slates. All dip down under the Carboniferous limestone, which forms a plain stretching across the western and northern part of the area, and in which stands the city of Dublin.

No rocks newer than the Lower Carboniferous go to the building up of our area, till one comes to the Glacial deposits. These, however, are thick and extensive, and profoundly affect the distribution of the vegetation. An almost continuous sheet of calcareous Boulder-clay, mainly derived from the great plain of Carboniferous limestone which lies to the west and north, is spread over the

lower grounds. In the limestone plain, on the north-west, the said rock appears at the surface only in occasional small patches. In the north-east the Glacial deposits overlie the granite less continuously, and patches of scrubby, rocky ground lie amid the fertile drift country. The Boulder-clay laps round the hills, ceasing at from 500 to 1000 feet. It is often succeeded by sands and gravels (the famous high-level shelly drift of the Dublin mountains), which are, like the Boulder-clay, full of limestone, and are found as high as 1500 feet. Above this, rock-debris and peat usually divide the honours between them. It is the distribution of the Glacial deposits that determines the main features of the phytogeography of the area; and one of the most interesting points of the distribution of the Glacial series is the extension of calcareous clays and gravels far over the non-calcareous rocks, and high up the granite mountain valleys.

Passing on to the purely physiographical features of the district, Kippure, 2473 feet, near the southern edge of our map, is the dominating feature—a massive dome, with wide peat-covered slopes. Thence a broad ridge, which for several miles maintains an elevation of over 2000 feet, runs northward to Ballynascorney. A few miles to the north-eastward, a parallel broad ridge runs from Prince William's Seat (1825 feet) to Killakee Mountain (1721 feet), approaching 2000 feet at several points. North-east of this again, Two-rock Mountain and its neighbours form a bulky mass, rising to 1699 feet. Between these ridges there are fine mountain glens. The largest of these is Glenasmole, running northward from Kippure, and occupied by the River Dodder. This stream, with its tributaries, is the chief drainer of our area. On emerging from Glenasmole, it runs north-eastward over the low grounds through a trough which it has cut in the drift, to join the sea in Dublin Bay, just at the mouth of the Liffey. The south-western corner of the district drains into the Liffey, which, rising on the south slope of Kippure, enters and flows in our area for a few miles, and, swinging round outside the west and north boundaries of the district, enters the sea at Dublin. The only other stream of importance is the Bray River, branches of which drain south-eastward down the fine mountain valleys of Glencullen and Glencree, the whole stream entering the sea at Bray. The only lakes in the district are two picturesque mountain tarns—Upper and Lower Lough Bray—lying in deep coombs, at an elevation of over 1200 feet, on the eastern slope of Kippure, at the head of Glencree.

The low, drift-covered plain of limestone—the edge of the great central plain of Ireland—that occupies the north-west portion of the

area is an agricultural district, still unaffected by its proximity to the city. Grazing is carried on on a large scale, and much limestone is quarried. In the north-east, the low grounds of the granite are very largely occupied by demesnes and villas, and are well planted. The shore line is varied, but offers only the narrowest fringe of littoral vegetation, and affords little opportunity for the development of the rich maritime flora which characterizes the coast of County Dublin as a whole. From Dublin to Blackrock it is embanked and much built over. Thence to Killiney rough granite rocks, with many houses, front the sea; from Killiney to Bray the waves are eating into a high bank of Glacial drift, which is now being protected by sea-walls; and from Bray to the south boundary of the area a high promontory of Cambrian slates and quartzites faces the water.

As regards climate, a few figures taken mostly from Mr. Colgan's *Flora of the County Dublin*, where they are presented in convenient form, will illustrate the conditions of temperature and rainfall. The mean annual temperature of Dublin City is 48.5° F. The range of temperature is not great. It is seldom that ten degrees of frost (22° F.) are registered; and a week's skating is a thing that occurs, perhaps, once in five years. The lowest temperature for twenty-five years was 6.8° F., registered in December, 1882, and 9° in January, 1894. In summer, a temperature of 80° F. in the shade is very rare, and looked upon as something quite exceptional. While the range of temperature is greater than that which obtains in the west of Ireland, it is less than that which characterizes the climate of the greater part of England.

As to rainfall, the County of Dublin offers a considerable diversity. The coastal region from Dublin city northward (which, however, is not comprised within the area treated of in this paper) lies within the driest area found in this island, having a rainfall of under 30 inches annually; and south of the city the rainfall rapidly increases as the hills are approached. In Glenasmole, at 600 feet, ten years give an average of 46 inches, and the precipitation on the higher grounds is, no doubt, much greater than this.

The prevailing winds are westerly, and a westerly aspect is the only one in which vegetation is injuriously affected by wind. The eastward bending of trees in exposed places on the hills is very marked (Plate xi., fig. 1); and, as will be mentioned later, the question of shelter from the west affects the distribution of some species, such as *Pteris*. Easterly winds, blowing off the sea, have seldom any appreciable effect; though in spring they may be persistent and bitter, still their duration is limited to a few weeks.

FLORISTIC NOTES.

The publication recently of Mr. Colgan's *Flora of the County Dublin* places at the disposal of the botanist a full, detailed account of the nature and distribution of the higher plants inhabiting the county. The notes which follow are mainly drawn from this work. Dublin has an exceptionally rich flora in comparison with other Irish counties (750 species, a total surpassed only in Antrim and Down); but its exceptional richness lies chiefly in that class of plants with which the present study is least concerned—namely, those which more or less certainly owe their presence to man's operations. Over one-fifth of the total flora is included in the non-native section. These are almost without exception lowland species, dwelling in the farmland and urban areas, and not affecting the native associations of the hills, with which we shall chiefly deal. The county is practically devoid

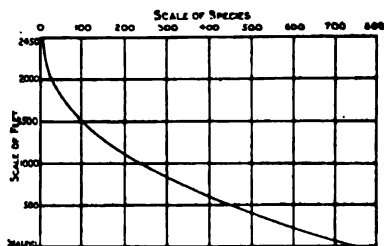


FIG. 1.

of lakes and low-level bogs, and its flora consequently poor in hydrophytes and bog-plants. In maritime plants it is very rich. It is also relatively rich in plants having in Ireland a southern distribution, and also in those whose range in Great Britain is southern; in northern plants it is distinctly weak. Coming to that portion of the county which is included in our survey, its area is about two-fifths of the whole, and its flora may be roughly taken as 550 species. Its coast-line offers no opportunity for the development of the rich maritime flora of the county, but its urban and farm-land areas possess a large flora of native and non-native plants. It is in its mountain land, however, that it chiefly differs from the rest of the county. While the foot-hills and glens contain a number of interesting species, the hills themselves are singularly poor in mountain plants. For instance, only four of Watson's Highland type occur—namely, *Saxifraga stellaris*, *Vaccinium Vitis-Idæa*, *Carex aquatilis*, *Selaginella selaginoides*.

None of these are exclusively alpine in Ireland; and the last two are frequently lowland, and in Dublin not characteristic of the mountain flora.

One table which Mr. Colgan gives is very useful for our purposes, as showing the rate of decrease in the flora with increasing elevation. Fig. 1 shows his facts expressed graphically, so as to exhibit at a glance the features of this analysis. The rapidity of the decrease in number of species as one ascends through the lower regions is very marked, and easily explained. Long before 500 feet is reached, we lose all maritime influence, all railways, canals, and much of the effects of human industry. At 1000 feet the far-reaching influences of cultivation are gone, and also the calcareous soil that results from the limestone drift. Above 1500 feet man's influence is almost in abeyance, though the Military Road, rising to 1610 feet, carries up into the 1500-2000 foot zone no less than twenty-three lowland species. Above 2000 feet only twenty-four species are left, which we may list:—

| | |
|-------------------------|-----------------------|
| Potentilla Tormentilla. | Juncus effusus. |
| Galium saxatile. | Luzula maxima. |
| Vaccinium Myrtillus. | Scirpus cæspitosus. |
| V. Vitis-Idæa. | Eriophorum vaginatum. |
| Calluna vulgaris. | E. angustifolium. |
| Erica Tetralix. | Carex echinata. |
| Melampyrum pratense. | Aira præcox. |
| Rumex Acetosella. | Deschampsia flexuosa. |
| Empetrum nigrum. | Agrostis vulgaris. |
| Listera cordata. | Festuca ovina. |
| Narthecium ossifragum. | Nardus stricta. |
| Juncus squarrosus. | Lycopodium Selago. |

It will be noted that this assemblage has no marked montane facies; as Mr. Colgan remarks, it differs to only a trifling extent from the flora of an Irish lowland bog.

In studying the foregoing table and remarks, however, it must be borne in mind that we are not dealing with equal areas at the different elevations. We are comparing the flora of 329 square miles of varied ground of 0-1000 feet elevation with that of 23 square miles of 1000-2000 feet elevation, and of two square miles of 2000-2450 feet elevation. Had we the figures showing the flora, at different elevations, of a strip of ground of uniform width extending from sea-level to the summit of Kippure, we could make a more instructive comparison.

THE METHODS OF SURVEY.

The observations which are recorded in the present paper, and on the accompanying map, represent the results of about one hundred days' field-work, carried out at intervals, chiefly during the winter halves of the last four years. This intermittent way of carrying on the survey was unavoidable owing to our spare time being limited, and has, we must confess, many drawbacks, progress being necessarily slow. More especially during the time when the associations were being, so to speak, borne in upon us, *i.e.* in the earlier part of the work, it was somewhat difficult to bear the facies of a particular association in mind in such detail, during a period of perhaps two or three weeks, that we could decide in a moment, on meeting with a somewhat similar association, whether the new association was identical with the old one, or whether it would entail a modification in mapping. As our experience grew, however, this difficulty became less and less felt. On the other hand, this mapping at intervals has its compensating advantages, not the least of which is that ground already mapped has necessarily to be traversed many times, and in different directions, so that it is easy to check previous mappings. We have taken many opportunities of doing this, and in this way most of our area has been gone over several times. The modifications in our previous mappings which we found it necessary to make on going over the same ground again have been, however, extremely small; and although we do not presume to suppose that our survey is a perfect one, and incapable of further improvement, we have no hesitation in publishing the results of it without further delay, in the hope that it may be useful, in conjunction with similar surveys which have been carried on in the neighbouring island, in adding something to our knowledge of the vegetation of the British Islands as a whole, and also that it may serve to awaken interest in the subject, and be the forerunner of more work of the kind in other districts of Ireland.

First, as to the determination of the associations. It is, perhaps, scarcely necessary to say that we use the term "association" in rather a loose sense. Those who are familiar with work of this kind will at once recognise this, and will see that many of our so-called associations are really "groups of associations"; but pending a more definite system of nomenclature, we think the use of the word will be sanctioned, and its meaning generally understood.

We decided at the very beginning to avoid reading up the detailed

work done in Scotland and England, and thus to start devoid of preconceived notions as to what the associations (if any) might, could, would, or should be, and to let them force themselves upon us as they actually existed in this area. Some of our first days in the field, therefore, were spent with no idea whatever of mapping, but merely with a view to finding out whether associations did exist, and sufficiently clearly so as to be capable of having their distribution marked on maps. We were not long in recognizing that associations did exist, and in deciding that they could be mapped, but only on a map of a fairly large scale. Thus we determined from the first that the six-inch-to-the-mile Ordnance maps were the only ones on which the field-mapping could be properly done, and these we have used throughout, each sheet being divided into four, and each quarter folded once across for convenience in carrying in a suitable portfolio. The only difficulty we have found in working with these maps is that in some cases one is tempted to map in perhaps rather more detail than one can really afford time for in a general survey, so that the progress is rather slower than it might be expected to be. Much of this detail must of necessity be omitted in reducing the map to the one-inch scale, the one we have adopted for publication; but undoubtedly the boundaries of even the larger associations can be much more accurately drawn on the six-inch map than on the one-inch; and it is certainly well to err on the side of having extra detail at one's disposal than of having insufficient materials for a correct survey.

In actually recording the distribution of the vegetation on the maps in the field we found the best method was to use a series of letters representing the dominant or sub-dominant species, and in each spot to note down these letters in the order of frequency of the plants; and afterwards, in the face of the evidence of the whole neighbourhood, to decide as to the boundary lines which the order of these letters indicated. The series of letters used was as follows:—

| | |
|------------------------------------|--------------------------------------|
| A = farm-land (crops and pasture). | J = <i>Juncus</i> spp. |
| U = <i>Ulex europæus</i> . | S = <i>Scirpus cæspitosus</i> . |
| G = <i>Ulex Gallii</i> . | E = <i>Eriophorum</i> spp. |
| H = <i>Erica cinerea</i> . | R = <i>Racomitrium lanuginosum</i> . |
| N = <i>Nardus stricta</i> . | V = <i>Vaccinium Myrtillus</i> . |
| P = <i>Pteris Aquilina</i> . | W = mixed deciduous woods. |
| C = <i>Calluna vulgaris</i> . | F = Coniferous woods. |

In the case of all characteristic associations, presided over by one or more of these plants, or by other species not mentioned above, lists

of the whole associations were made in a number of widely-separated places, so that a good idea was obtained of the composition and variants of each association. Thus, these letters grew to represent known associations; and while in characteristic ground a single letter, such as P, or G, or C, entered on the map, supplied all the needful information, in ground where there was an overlap or intermixture of associations, the facts were expressed by a combination of letters, arranged in order of abundance of the species which they represented. Thus CGP expressed a Callunetum with a good deal of *Ulex Gallii* and its dependent species, and less of *Pteris Aquilina* and its usual associates. A_P^U signified a pasture into which *Ulex europæus* and *Pteris Aquilina*, in equal quantities, have made considerable incursions.

In mapping on mountain land, where man's operations have not disturbed the surface by ploughing, or the water-supply by drainage, the changes of vegetation are usually much more gradual than in the lower grounds; and the absence of fences and landmarks sometimes makes mapping difficult.

Here we found that a distant view often shows distinctly, by a difference of colour, the boundary between different types of vegetation which could be mapped; the ground in question being afterwards closely examined to find the nature of the change of vegetation indicated by the difference of colour. It is in the autumn that these colour-differences are most marked; then the rich red-brown of the Bracken, the golden-brown of *Scirpus cæspitosus*, the dark red of the Cotton-grass, contrast with the deep purple-brown of the *Calluna*; the golden-yellow of the blossoming *Ulex Gallii* picks it out at a long distance from the dark, flowerless masses of *U. europæus*; and the grey of the dying rushes is clearly distinguishable from the green of the grass-associations. It only remains to be added, that we almost invariably worked together, the one checking the other's decisions as to the position of boundary lines, and analysis of the vegetation. While in many cases the boundary lines between different associations are absolutely sharp (such as the edges of colonies of *Pteris* and *Juncus*), those in which the predominating species are social rather than gregarious often shade one into another by almost imperceptible degrees. Thus, on many of the broader mountain slopes, pure C (*Calluna*), dry and bushy, by degrees gives way to CS (*Calluna* + *Scirpus*), a low, mossy vegetation, which passes again into SC (*Scirpus* + *Calluna*), shorter, wetter, without frondose mosses, but with *Sphagnum*, and constituting the characteristic association of the higher grounds; and this occasionally passes into that rare type of

vegetation, a pure *Scirpetum*. To map these wide overlaps, a zigzag course along the mountains was found best; which, by means of observations of the increasing and decreasing frequency of the index species, gave an average line of boundary.

ANALYSIS OF THE ASSOCIATION LISTS.

We shall next proceed to the description and discussion of the individual associations; but before doing so it will be necessary to give a short explanation of the methods we adopted in finally arranging the lists of plants in some of the associations.

In most of the papers hitherto published dealing with the composition and distribution of associations, a list of the plants belonging to each association has been appended, usually one taken from a spot where the association seemed to the observer to be most typically developed. The lists which we append, however, to most of our descriptions of the associations have been prepared from a number of such representative lists, by a mechanical process, so as to give, as far as possible, the mean or average composition of the particular association in our district. The method by which these lists have been prepared will be seen from what follows.

In the case of each association, the flora was listed as carefully as possible¹ in a number of typical stations; and in each list, the species were set down in their approximate order of abundance as judged by the eye. The lists of each association were then tabulated; the numbers 1, 2, 3, 4, &c., being used to express the position in each list of each species. From this a general list was compiled, the plants occurring in *all* the sample stations being listed first, arranged in an order settled by their position in the several lists; the plants which occurred in all stations but one following next, arranged in the same order, and so on; the plants which occurred in only one or two stations, and which are therefore occasional rather than characteristic members of the association, usually following the more characteristic members in the Natural Order. The lists, as given under the various associations, show after each species the number of stations in which it occurred; while those species which were specially abundant in and characteristic of the vegetation of those stations in which they occurred, as shown by their high place in the several lists, are emphasized by being printed in capital letters. An example will make the process clear. See page 142.

¹ It will be seen that we were not able to pay very special attention to the lower cryptogamic part of the flora.

ANALYSIS OF THE RACOMITRUM ASSOCIATION.

| SPECIES. | Station on Map. | | | | | | | Total of | | Final Order. | |
|---------------------------|-----------------|----|----|----|----|-----|----|----------|----------------|--------------|---------------------------|
| | 31 | 34 | 38 | 48 | 50 | 56a | 65 | 74 | Sta- tions. | | Num- bers. |
| | | | | | | | | | | | |
| Calluna vulgaris, . . . | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 | 8 | CALLUNA VULGARIS. 8. |
| Racomitrium lanug., . . | 2 | 7 | 6 | 3 | 11 | 3 | 3 | 2 | 8 | 36 | SCIRPUS CÆSPITOSUS. 8. |
| Eriophorum vag., . . . | 3 | — | 13 | 4 | — | — | — | 7 | 4 | 27 | RACOMITRIUM LANUG. 8. |
| Scirpus cæspitosus, . . . | 4 | 6 | 3 | 6 | 5 | 2 | 2 | 3 | 8 | 31 | ERIOPHORUM ANGUST. 8. |
| Juncus squarrosus, . . . | 5 | 5 | 4 | — | 3 | — | — | — | 4 | 17 | EMPETRUM NIGRUM. 8. |
| Nardus stricta, . . . | 6 | — | — | — | — | — | — | — | 1 | 6 | Sphagnum, spp. 7. |
| Carex glauca, . . . | 7 | — | — | — | — | — | — | — | 1 | 7 | Cladonia rangiferina. 7. |
| Narthecium oss., . . . | 8 | — | — | — | — | — | 7 | — | 3 | 24 | ERICA TETRALIX. 6. |
| Pot. Tormentilla, . . . | 9 | 10 | — | — | 13 | — | — | 8 | 4 | 40 | JUNCUS SQUARROSUS. 4. |
| Luzula maxima, . . . | 10 | — | — | — | — | — | — | — | 1 | 10 | Eriophorum vag. 4. |
| Carex binervia, . . . | 11 | — | — | — | — | — | — | — | 1 | 11 | Pot. Tormentilla. 4. |
| Eriophorum angust., . . | 12 | 2 | 2 | 2 | 6 | 5 | 4 | 6 | 8 | 39 | Vaccinium Myrtillus. 4. |
| Molinia cærulea, . . . | 13 | — | 8 | — | — | — | — | — | 2 | 21 | Narthecium ossifragum. 3. |
| Cladonia rangiferina, . . | 14 | 9 | 6 | 8 | 10 | — | 6 | 10 | 7 | 63 | Ulex Gallii. 2. |
| Sphagnum, spp., . . . | 15 | 8 | 11 | 9 | 2 | — | 8 | 9 | 7 | 62 | Drosera rotundifolia. 2. |
| Empetrum nigrum, . . . | 16 | 4 | 7 | 5 | 12 | 4 | 9 | 4 | 8 | 61 | Pinguicula vulgaris. 1. |
| Ulex Gallii, . . . | 17 | — | 9 | — | — | — | — | — | 2 | 26 | Luzula maxima. 1. |
| Erica tetralix, . . . | — | 3 | 10 | 7 | 4 | — | 5 | 5 | 6 | 34 | Carex glauca. 1. |
| Vaccinium Myrtillus, . . | — | 11 | 12 | — | — | 6 | — | 11 | 4 | 40 | C. binervia. 1. |
| Drosera rotundifolia, . . | — | — | 14 | — | 8 | — | — | — | 2 | 22 | Molinia cærulea. 2. |
| Pinguicula vulgaris, . . | — | — | — | — | 7 | — | — | — | 1 | 7 | Nardus stricta. 1. |
| Polytrichum, . . . | — | — | — | — | 14 | — | — | — | 1 | 14 | Polytrichum. 1. |
| TOTAL SPECIES, . . . | 17 | 11 | 14 | 9 | 14 | 6 | 9 | 11 | | | |

We are not, however, absolutely convinced that this method of giving the lists of plants composing our associations has any great additional value. It is true that this method of working out the lists was rather an afterthought when many of the lists had been made; and, doubtless, greater value would have accrued had we made a far larger number of lists than we did, and if we had had some workable method by which we could, with greater accuracy than by merely judging by the eye, have estimated the relative abundance of the different species.

THE ZONES OF VEGETATION.

Using the word "zone" to represent the successive bands of vegetation which one would traverse in going from sea-level to the tops of the mountains, we find in our area the following four well-marked zones:—

1. The Littoral Zone,
2. The Agrarian Zone,
3. The Hill-Pasture Zone,
4. The Moorland Zone.

It must not be supposed, however, that the limits of these zones are very sharply marked by contour lines of altitude. It may also be remarked here that in no case have we taken any contour line and used it as an arbitrary division between two zones or two associations, preferring rather in each individual case to work out to the best of our ability the actual limits of the vegetation. As regards the littoral zone, it is not necessary to do more than mention it at this place. The agrarian zone runs on an average up to about 900 feet above the sea (in one case we have tilled land up to 1250 feet). The moorland zone, in the shape at any rate of a dense sheet of the pure *Calluna* association, is seldom found descending much below 1250 feet; so that between these two altitudes the zones of hill-pasture may be said to come in. Above the 1750 feet contour, the moorland, where drainage is fairly good, begins to take on a somewhat different character, a large quantity of moss being mixed with the heather, producing in certain cases (Prince William's Seat, Killakee Mountain, Kippure) somewhat the aspect of a moss-tundra. The change, however, is not sufficiently distinct or well-marked to warrant our adding a fifth zone to the four above mentioned.

The agrarian zone is occupied chiefly by the farm-land. Under this term may be included all the cultivated area and grazing lands, and also the areas occupied by demesnes and pleasure-grounds. The areas occupied by houses and streets, though yielding, if any, a modified and much-reduced flora, need not be distinguished from the farm land, as both come under the same category, namely, area where the influence of man is dominant, and where the natural plant-associations have been broken up or destroyed. The limits of the farm-land are fixed sometimes by questions of altitude and exposure, but more often by the thinning-out of the glacial deposits. Where this latter occurs on the lower ground in the agrarian zone, pastures, meadows, and tillage usually give way to rough, broken ground, strewn with boulders of granite, which rock also lies immediately beneath what shallow soil there may be in such places. This rough ground is occupied by the Gorse (*Ulex europæus*) and the *Pteris* associations. Where the farm-land reaches its upward limits, the zone of hill-pasture begins, although between the two there is often a thin line of the *Ulex europæus* association. In this zone several associations occupy the ground. Thus in some places, though not very frequently, above the farm-land, we find considerable areas of pretty pure grass-land in which the upland grasses are well represented. This seems to be especially the case, as on parts of Montpelier Hill, for instance, where there is still a fair sprinkling of glacial gravel over the underlying rock. The greater part of the area, however, is covered with that form of the gorse association in which *Ulex Gallii* is the characteristic plant, and which will be fully described in its proper place. Again, we find some areas in this zone covered by an association in which the Purple Heather (*E. cinerea*) is predominant; and this is frequently the case when the subjacent rocks are the slates, &c., of the Silurian period, rather than the granite and its débris. Finally, in this zone the *Pteris* and *Juncus* associations are often well developed.

In the moorland zone we have also several associations which form the covering of vegetation. It is here that the influence of peat first makes itself seriously felt. On the better-drained slopes *Calluna* reigns supreme. The flatter and wetter bogs present us with associations in which *Scirpus cespitosus* and *Eriophorum angustifolium* are respectively predominant. The moss *Racomitrium lanuginosum*, growing in grey bosses, gives us another characteristic type of moorland; and on the drier hill-tops gives rise to the sort of moss-tundra mentioned previously.

Pteris is also occasionally found in abundance in the moorland amidst the heather, and so are large patches of *Juncus effusus*, *J. acutiflorus*, and their associates; while in one place, along the scarp overlooking the two Loughs Bray, a *Vaccinium* association is well developed. Finally, in this zone we have one or two large areas, as near Prince William's Seat and on the summit of Kippure, where the living vegetation is conspicuous by its absence, and where, owing probably to slow climatic changes, the peat is being denuded away, leaving the bare crumbling granite exposed. (Plate XI., fig. 2.)

The wooded areas in our district are comparatively few and small; but what there are, are distributed in all the zones mentioned above, except the littoral zone.

THE LITTORAL ZONE.

As pointed out before, the maritime vegetation as developed along the coast in our area is not an extensive one; the richness in maritime plants which characterizes this zone in the County Dublin, as a whole, being better developed along the northern part of the coastline of the county. The zone, however, may be considered as being occupied by the three associations which follow, the first of which alone covers an area sufficiently extensive to be recorded on the map.

The Sand-Dune Association. (L.)¹

This is only developed to a small extent in our area, namely, at the South Bull, south of the Pigeonhouse Fort, at the entrance to the River Liffey. The limited amount of sand-dune here is of the loose type of dune, with an open vegetation, and there is a complete absence of any grassy or mossy sward. *Triticum junceum* is easily recognized as being the most abundant plant, seeming especially to thrive on the lower ridges of the sand-hills, and apparently not suffering in the slightest from an occasional inundation of salt-water. *Psamma arenaria* is more conspicuous on the higher parts of the

¹ The letter given after the name of each association corresponds with that used on the map published herewith.

hillocks, and out of the reach of the sea-water, thus showing its character as a psammophile rather than halophile plant. The only list of plants we made here (in the month of December) is as follows, in order of relative abundance :—

| | |
|-----------------------|------------------------|
| Triticum junceum. | Cnicus arvensis. |
| Psamma arenaria. | Leontodon autumnalis. |
| Eryngium maritimum. | Poa pratensis. |
| Euphorbia Puralias. | Plantago lanceolata. |
| Cakile maritima. | Matricaria inodora. |
| Cerastium tetrandrum. | Holcus mollis. |
| C. semidecandrum. | Festuca ovina. |
| Taraxacum officinale. | Senecio vulgaris. |
| Hypochæris radicata. | Sonchus oleraceus, and |
| Agrostis alba. | A small Agaric. |

The Salt-Marsh Association.

Within our area, the salt-marsh flora forms but a subsidiary feature of the vegetation, and is best seen in marshy fields between Merrion and Blackrock, especially on the borders of drains there. But even here grazing and building have so reduced the flora that only remnants of a halophile vegetation are now in occupation of the ground, and they call for no detailed treatment.

The Rock and Cliff Association.

The coast from Blackrock to Killiney is formed of rough, granite rocks. These yield in general but a limited flora, on account of their dry and massive nature, and the fact that houses and gardens occupy most of the available space. On the high declivities and cliffs of Bray Head, formed of slates and quartzites, the vegetation is undisturbed, and forms a mixed saxicole and halophile association. On the rocks may be seen, of maritime plants, *Lavatera arborea*, *Spergularia rupestris*, *Crithmum maritimum*, *Euphorbia portlandica*, and *Asplenium marinum*, growing with the familiar profusion of Scurvy-grass, Sea-Campion, Sea-Pink, Scentless May-weed, and Sea Plantain. The plants of

the stony and grassy slopes are less maritime in character: *Erica cinerea*, *Carlina vulgaris*, *Teucrium Scorodonia*, and *Erodium maritimum* are characteristic.

THE AGRARIAN ZONE.

The Farm-land. (A.)

From some points of view this group of associations presents a number of interesting features. The operations of farming, such as ploughing, manuring, and grazing, have of course an enormous influence over the plant associations which prevail; and a detailed study of these influences would certainly yield interesting and useful results. The artificial associations produced thus are, of course, small in area as a rule, but recur again and again in the farm-land; to record them satisfactorily, therefore, would require publication on a larger scale than the one inch to the mile. Since this is so, and since these small areas would vary very much from year to year, according to the farmers' rotations, &c., we have not paid very much attention to them.

The old pastures present the only considerable area where the vegetation is in a state of equilibrium; and there it is controlled to a considerable extent by grazing animals. Almost everywhere the flora of the pasture-land has a calcicole aspect, since, even where the underlying rock is granite or slate, calcareous Boulder-clay usually overlies it. The following may be mentioned as characteristic plants of old pastures and undisturbed banks in the farm-land area, being seldom met with outside it:—

| | |
|------------------------------------|-----------------------------|
| <i>Ranunculus bulbosus.</i> | <i>Primula officinalis.</i> |
| <i>Linum catharticum.</i> | <i>Orchis pyramidalis.</i> |
| <i>Lathyrus pratensis.</i> | <i>Phleum pratense.</i> |
| <i>Pulicaria dysenterica.</i> | <i>Trisetum flavescens.</i> |
| <i>Chrysanthemum Leucanthemum.</i> | <i>Avena pubescens.</i> |
| <i>Cnicus arvensis.</i> | <i>Bromus erectus.</i> |
| <i>Leontodon hispidus.</i> | <i>Briza media.</i> |
| <i>Tragopogon pratensis.</i> | |

Owing to much of our work having been confined to the winter

months, we did not pay as much attention as we should have liked to the question of the changes in the composition of the grass-associations as altitude increases. But the selected list given above may be compared with the following flora of a typical upland pasture:—

*Old Upland Pasture, near Talbotstown House, about 800 ft.,
19 June, 1904.*

| | |
|--------------------------------|------------------------------|
| <i>FESTUCA OVINA.</i> | <i>Senecio Jacobæa.</i> |
| <i>ANTHOXANTHUM ODORATUM.</i> | <i>Centaurea nigra.</i> |
| <i>AGROSTIS VULGARIS.</i> | <i>Leontodon autumnalis.</i> |
| <i>Cynosurus cristatus.</i> | <i>Taraxacum officinale.</i> |
| <i>Holcus mollis.</i> | <i>Veronica Chamædrys.</i> |
| <i>Plantago lanceolata.</i> | <i>V. officinalis.</i> |
| <i>Ranunculus acris.</i> | <i>Prunella vulgaris.</i> |
| <i>R. bulbosus.</i> | <i>Rumex Acetosa.</i> |
| <i>Viola sylvatica.</i> | <i>Orchis maculata.</i> |
| <i>Trifolium repens.</i> | <i>Habenaria viridis.</i> |
| <i>Galium saxatile.</i> | <i>H. chloroleuca.</i> |
| <i>Potentilla Tormentilla.</i> | <i>Juncus squarrosus.</i> |
| <i>Polygala depressa.</i> | <i>Luzula multiflora.</i> |
| <i>Hypochaeris radicata.</i> | <i>Carex præcox.</i> |
| <i>Cnicus palustris.</i> | <i>C. glauca.</i> |
| <i>Bellis perennis.</i> | <i>C. pilulifera.</i> |
| <i>Trifolium pratense.</i> | <i>C. binervis.</i> |
| ————— | <i>Dactylis glomerata.</i> |
| <i>Viola lutea.</i> | <i>Molinia cœrulea.</i> |
| <i>Stellaria graminea.</i> | <i>Poa pratensis.</i> |
| <i>Linum catharticum.</i> | <i>Botrychium Lunaria.</i> |
| <i>Lotus corniculatus.</i> | |

In another case an upland meadow, of which portion was undisturbed, and portion but recently broken up and sown with grass, gave both a useful total list and an indication of the changes of flora induced by such a disturbance. See page 149 (C = common, F = frequent, R = rare, X = present).

A division of the cultivated land into a portion showing wheat cultivation, and a second where oats is the chief crop, as has been done on most of the English and Scottish vegetation maps, was not found to be possible in our area, since wheat is so little cultivated.

UPLAND HAY-FIELD, near Kilbride Church, about 700 feet. In part old natural sward, in part recently laid down. June 11, 1904.

| | Old. | New. |
|---|------|------|
| <i>Grasses</i> — | | |
| <i>Anthoxanthum odoratum</i> , | × | C |
| <i>Holcus lanatus</i> , | × | × |
| <i>Cynosurus cristatus</i> , | × | × |
| <i>Dactylis glomerata</i> , | × | × |
| <i>Poa pratensis</i> , | × | |
| <i>Festuca rubra</i> , | × | × |
| <i>F. ovina</i> , | × | |
| <i>Bromus mollis</i> , | | × |
| <i>Lolium perenne</i> , | | × |
| <i>Ranunculus bulbosus</i> , | C | B |
| <i>Linum catharticum</i> , | × | |
| <i>Trifolium pratense</i> , | × | × |
| <i>T. repens</i> , | | × |
| <i>T. minus</i> , | | × |
| <i>Vicia Cracca</i> , | | × |
| <i>Lotus corniculatus</i> , | × | × |
| <i>Heracleum Sphondylium</i> , | × | |
| <i>Galium saxatile</i> , | × | |
| <i>Bellis perennis</i> , | F | × |
| <i>Senecio Jacobaea</i> , | × | × |
| <i>Chrysanthemum leucanthemum</i> , | × | × |
| <i>Centaurea nigra</i> , | × | × |
| <i>Hypochaeris radicata</i> , | × | × |
| <i>Leontodon autumnalis</i> , | × | |
| <i>Taraxacum officinale</i> , | × | × |
| <i>Myosotis versicolor</i> , | | × |
| <i>Veronica Chamaedrys</i> , | × | × |
| <i>Euphrasia officinalis</i> , | × | |
| <i>Rhinanthus Crista-galli</i> , | × | × |
| <i>Prunella vulgaris</i> , | × | × |
| <i>Plantago lanceolata</i> , | × | × |
| <i>Rumex obtusifolius</i> , | × | |
| <i>R. Acetos.</i> , | × | |
| <i>Lurula campestris</i> , | × | |
| <i>Pteris Aquilina</i> , | × | |

The farm-land has its usual abundance of colonists and denizens—species of *Papaver*, *Fumaria*, *Brassica*, *Crepis*, *Sonchus*, *Chenopodium*, *Atriplex*, *Polygonum*, *Euphorbia*, and others. In the higher cultivated areas, the number of these decreases, and there is an increase of certain other plants, such as *Raphanus Raphanistrum*, *Chrysanthemum segetum*, *Stachys palustris*, *Galeopsis Tetrahit*. By roadsides, and on waste ground, in the farm-land, large-leaved herbs are numerous and characteristic, such as *Petasites*, *Arctium*, *Rumex*.

There are no native woods of any extent now, either on the lower or higher grounds. The planted trees in the farm-land area are of all kinds; and in the form of belts of planting and rows of trees in fences, the district is well wooded. The only tree-areas of any extent are certain pine-woods on the upper grounds, which will be referred to later when discussing woods. The planting and hedges shelter the usual shade associations.

As regards hydrophytic associations, there are of course plenty of fields in which the drainage is bad, where rushes and the grasses characteristic of sour land prevail; but it is quite impossible to indicate these small areas, except on maps of a much larger scale than one inch to the mile. The Grand Canal and a number of small ponds in the farm-land area also give us hydrophytic plants, as the following list of plants growing in the canal will show:—

| | |
|--------------------------------|---------------------------------|
| <i>Ranunculus circinatus</i> . | <i>Potamogeton pusillus</i> . |
| <i>Nuphar luteum</i> . | <i>P. pectinatus</i> . |
| <i>Hippuris vulgaris</i> . | <i>Zannichellia palustris</i> . |
| <i>Callitriche spp.</i> | <i>Eleocharis acicularis</i> . |
| <i>Sium erectum</i> . | <i>Scirpus lacustris</i> . |
| <i>Menyanthes trifoliata</i> . | <i>Glyceria aquatica</i> . |
| <i>Elodea canadensis</i> . | <i>Equisetum limosum</i> . |
| <i>Sparganium ramosum</i> . | <i>Chara fragilis</i> . |
| <i>Lemna minor</i> . | <i>C. hispida</i> . |
| <i>Alisma Plantago</i> . | <i>C. vulgaris</i> . |
| <i>Potamogeton natans</i> . | <i>Tolypella glomerata</i> . |
| <i>P. crispus</i> . | <i>Nitella opaca</i> . |
| <i>P. densus</i> . | |

The Ulex europæus Association. (U.)

As mentioned above, this occurs in the form of "islands" among the farm-land, where the overlying deposits of drift are absent, and where the bed-rock (granite or slate) comes to the surface. It is also

developed often as a rather narrow fringe above the upper limits of the farm-land, where also the glacial deposits thin out.

Were the operations of man and grazing animals to cease, however, it is probable that the limitation of the association to these driftless islands would be short-lived. We find, for example, in good grass fields near the Scalp, and elsewhere, serious invasions of *Ulex europæus* into the surrounding pasture, and in some of these the influence of grazing on the form of the invading bushes is very well seen.¹

The substratum here is usually a thin friable soil, derived from the weathering of the granite; this substratum is not peaty. The vegetation is very rough, 5 to 10 feet in height, with small trees and climbing shrubs intermixed, and lanes and patches of grass. The trees represented are mainly *Cratægus Oxyacantha* and *Ilex Aquifolium*; the climbers *Rubus*, *Rosa*, and *Lonicera Periclymenum*. *Pteris Aquilina* is a frequent ingredient, often contesting the ground with the Gorse. In the undergrowth, *Teucrium Scorodonia*, *Galium saxatile*, *Viola Riviniana*, *Veronica officinalis*, *Agrostis vulgaris*, and on rocks *Sedum anglicum*, are abundant. Also a fair number of shade plants, such as *Primula vulgaris*, *Scilla nutans*, *Arum maculatum*, which shelter among the loose shrubby tangle.

The following roughly-classified list, made from a number of observations, will convey an idea of the flora of the *Ulex europæus* ground:—

Trees and shrubs:—

| | |
|----------------------|---------------------|
| ULEX EUROPEUS. | Fraxinus excelsior. |
| U. Gallii. | Ilex Aquifolium. |
| Prunus spinosa. | Salix aurita. |
| Cratægus Oxyacantha. | |

Climbers and scramblers:—

| | |
|-------------------|---------------------|
| RUBUS FRUTICOSUS. | Stellaria Holostea. |
| Rosa canina. | S. graminea. |

Shade plants:—

| | |
|--------------------|-------------------|
| Anemone nemorosa. | Primula vulgaris. |
| Oxalis Acetosella. | Scilla nutans. |
| Hedera Helix. | Arum maculatum. |

¹ Since the above was written, the hand of man has repelled the particular invasions referred to.

Sward plants:—

| | |
|--------------------------------|--------------------------------|
| <i>Viola sylvatica.</i> | <i>Leontodon autumnalis.</i> |
| <i>Polygala vulgaris.</i> | <i>Veronica serpyllifolia.</i> |
| <i>Trifolium repens.</i> | <i>Euphrasia officinalis.</i> |
| <i>Lotus corniculatus.</i> | <i>Prunella vulgaris.</i> |
| <i>Potentilla Tormentilla.</i> | <i>Rumex Acetosa.</i> |
| <i>Galium verum.</i> | <i>Carex binervis.</i> |
| <i>G. saxatile.</i> | <i>Holcus mollis.</i> |
| <i>Scabiosa succisa.</i> | <i>AGROSTIS VULGARIS.</i> |
| <i>Bellis perennis.</i> | <i>Dactylis glomerata.</i> |
| <i>Achillæa Millefolium.</i> | <i>Cynosurus cristatus.</i> |
| <i>Senecio Jacobæa.</i> | <i>Festuca ovina.</i> |
| <i>Hypochæris radicata.</i> | <i>Nardus stricta.</i> |
| <i>Cnicus palustris.</i> | |

Miscellanea:—

| | |
|------------------------------|---------------------------------|
| <i>Potentilla reptans.</i> | <i>Digitalis purpurea.</i> |
| <i>Geranium molle.</i> | <i>Rumex crispus.</i> |
| <i>Hypericum pulchrum.</i> | <i>R. Acetosella.</i> |
| <i>Lepidium hirtum.</i> | <i>Phleum pratense.</i> |
| <i>Cerastium glomeratum.</i> | <i>Holcus lanatus.</i> |
| <i>C. triviale.</i> | <i>Aira præcox.</i> |
| <i>Senecio sylvaticus.</i> | <i>Arrhenatherum avenaceum.</i> |
| <i>Crepis virens.</i> | <i>Poa annua.</i> |
| <i>Sonchus oleraceus.</i> | <i>Pteris Aquilina.</i> |
| <i>Jasione montana.</i> | <i>Polytrichum aloides.</i> |
| <i>Teucrium Scorodonia.</i> | |

In wet spots a marsh association comes in, and the above are replaced by:—

| | |
|-------------------------------|---------------------------|
| <i>Ranunculus Flammula.</i> | <i>J. effusus.</i> |
| <i>R. acris.</i> | <i>J. acutiflorus.</i> |
| <i>Cardamine pratensis.</i> | <i>J. lamprocarpus.</i> |
| <i>Stellaria uliginosa.</i> | <i>Carex ovalis.</i> |
| <i>Potentilla anserina.</i> | <i>C. glauca.</i> |
| <i>Senecio aquaticus.</i> | <i>C. flava.</i> |
| <i>Pedicularis palustris.</i> | <i>Aira cæspitosa.</i> |
| <i>Juncus bufonius.</i> | <i>Glyceria fluitans.</i> |

Bosses of granite rising here and there bring in a few pronounced xerophytes, such as :—

Ulex Gallii.

Cotyledon Umbilicus.

Sedum anglicum.

Erica cinerea.

The upper limit of the association, where it is usually succeeded by that of *U. Gallii*, is often climatic, and consequent on exposure; and where the ground is steep, one association succeeds the other with a tolerably sharp line of demarcation, and without change of soil or water conditions. Elsewhere the upper limit of *U. europæus* is an edaphic phenomenon, and caused by the appearance of peat, in which case the supervening *U. Gallii* association is generally diluted with a plentiful sprinkling of *Calluna*, in lieu of the characteristic *Agrostis* sward.

THE ZONE OF HILL-PASTURE.

The most characteristic associations in this zone are the *Ulex Gallii* association with its somewhat varying facies, the *Pteris* association, and the not very extensive *Nardus* association.

The Ulex Gallii Association. (G.)

As one ascends from the farm-land on the *U. europæus* area, *Ulex Gallii* makes its appearance among its stronger-growing congener, and by degrees becomes completely dominant. The general appearance of typical *Gallii* ground is quite different from that of typical *U. europæus* ground. The rough, untidy surface of vegetation, interspersed with small trees, bushes, and patches of grass, is replaced by a uniform surface of low rounded bosses, very dense, and placed close together, but with sheep-walks between; and it is to the grazing of sheep and rabbits that the roundness of the bosses is partly due. Other bushes or trees are completely absent, though a stray Bramble or stunted Blackthorn or Holly may occur. *Agrostis vulgaris*, *Erica cinerea*, *Calluna vulgaris*, *Galium saxatile* hold their own in the bosses of *Gallii*, straggling up through the dense, prickly surfaces. In some areas, however, these bosses are far apart, or even almost absent; and here the upland grasses come in, forming a dense sward.

In other cases *U. Gallii* is practically absent, and its place is taken by a dense growth of *Erica cinerea*, the other plants of the association remaining pretty much the same. The substratum here is usually peaty, but dry.

COMPOSITION OF THE TYPICAL *ULEX GALLII* ASSOCIATION.*Number of stations examined—seven.*

| | |
|------------------------------------|-----------------------------------|
| <i>ULEX GALLII</i> . 7. | <i>Scabiosa succisa</i> . 1. |
| <i>AGROSTIS VULGARIS</i> . 6. | <i>Solidago Virgaurea</i> . 1. |
| <i>GALIUM SAXATILE</i> . 6. | <i>Achillæa Millefolium</i> . 2. |
| <i>POTENTILLA TORMENTILLA</i> . 6. | <i>Senecio Jacobæa</i> . 1. |
| <i>Polygala depressa</i> . 6. | <i>Cnicus palustris</i> . 2. |
| <i>PTERIS AQUILINA</i> . 5. | <i>Leontodon autumnalis</i> . 1. |
| <i>Calluna vulgaris</i> . 5. | <i>Jasione montana</i> . 1. |
| <i>Carex binervis</i> . 5. | <i>Digitalis purpurea</i> . 1. |
| <i>Festuca ovina</i> . 5. | <i>Veronica officinalis</i> . 1. |
| <i>Vaccinium Myrtillus</i> . 5. | <i>Euphrasia officinalis</i> . 2. |
| <i>Viola sylvatica</i> . 5. | <i>Melampyrum pratense</i> . 1. |
| <i>ERICA CINEREA</i> . 4. | <i>Prunella vulgaris</i> . 1. |
| <i>Hypochaeris radicata</i> . 4. | <i>Plantago lanceolata</i> . 2. |
| <i>Hypericum pulchrum</i> . 4. | <i>Rumex Acetosa</i> . 2. |
| <i>MOLINIA CÆRULEA</i> . 3. | <i>R. Acetosella</i> . 2. |
| <i>PEDICULARIS SYLVATICA</i> . 3. | <i>Juncus squarrosus</i> . 1. |
| <i>Carex pilulifera</i> . 3. | <i>Luzula maxima</i> . 1. |
| <i>Teucrium Scorodonia</i> . 3. | <i>L. campestris</i> . 2. |
| <i>Veronica Chamædrys</i> . 3. | <i>Carex præcox</i> . 1. |
| — | <i>C. glauca</i> . 1. |
| <i>Ranunculus repens</i> . 1. | <i>Anthoxanthum odoratum</i> . 2. |
| <i>Cerastium triviale</i> . 2. | <i>Aira præcox</i> . 1. |
| <i>Stellaria Holostea</i> . 2. | <i>Holcus lanatus</i> . 2. |
| <i>Montia fontana</i> . 1. | <i>Cynosurus cristatus</i> . 1. |
| <i>Oxalis Acetosella</i> . 1. | <i>Triodia decumbens</i> . 2. |
| <i>Ulex europæus</i> . 1. | <i>Poa annua</i> . 1. |
| <i>Trifolium repens</i> . 2. | <i>Nardus stricta</i> . 2. |
| <i>Prunus spinosa</i> . 1. | <i>Lastrea dilatata</i> . 1. |
| <i>Rubus fruticosus</i> . 2. | <i>Polytrichum</i> . 1. |
| <i>Sedum anglicum</i> . 1. | <i>Cladonia rangiferina</i> . 1. |

As compared with the vegetation of the *Ulex europæus* areas, it will be seen that the *U. Gallii* ground does not show any appreciable diminution as regards the total number of species present; the most marked change is the smaller stature of the plants, the absence of tall-growing species, and of such as have large leaves; in short, a tendency to more pronounced xerophytism in character.

The lower limit of *U. Gallii* is sometimes climatic, the lessening of exposure allowing the stronger-growing *U. europæus* to overshadow and beat out its rival; sometimes edaphic-artificial, the incoming of the drift leading to cultivation, and consequent destruction of the natural vegetation. The upper limit is sometimes caused by exposure, in which case *U. Gallii* slowly gives way to the heaths; or frequently it is formed by the lower edge of the wet peat-cap which clothes most of the higher hills.

The Pteris Association. (P.)

The distribution of the Bracken *Pteris Aquilina* is very interesting, and presents a number of problems. While the associations of *Ulex europæus*, *U. Gallii*, and *Calluna* maintain a definite order in altitude, and represent climatic zones in a small way, the Bracken forms colonies in one and all of these, disputing the ground with each; and often, it

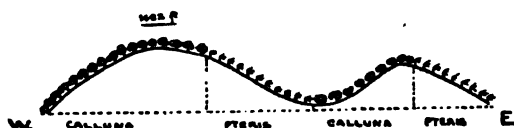


FIG. 2.

would appear, beating them back. These colonies vary considerably in size, and only the larger ones will be found indicated on the map. For the success of *Pteris* a certain depth of light, well-drained soil, peaty, loamy, or sandy, is necessary. There are also very marked indications of its preferring shelter; and again and again in the mountains one notices this plant predominant on hill-sides which are sheltered from the prevailing westerly winds, and covering the eastern sides of hollows and river-glens, while absent from the western. Thus, in Glencullen, the west bank of the little side glens is often thickly occupied by *Pteris*, while the eastern bank is in the possession of *Calluna*. The same tendency may be noticed on Carrickgollaghan, Ballycorus Hill, the hill west of Ballybetagh, and elsewhere. The most striking example is on the ground lying east of Prince William's Seat. Here a section across Raven's Rock and the adjoining hill displays a formation like this (fig. 2). *Pteris*, then, far from replacing *Calluna*, or either species of *Ulex*, when conditions are unfavourable for their growth (as these three species do to one another), appears as

a colonist in the domain of these plants, and in direct antagonism to them. Observations show that even in the case of the robust and aggressive *U. europæus*, *Pteris* is not only able to hold its own, but can push back its rival. In several places where these two plants come into contact, we have had occasion to observe that the front rank of the Gorse is almost dead, consisting of old spindly plants struggling upward for light, quite bare below, and devoid of young growth or seedlings. In early spring, when the victorious Bracken is represented only by a bed of decaying débris, the shattered front of the Gorse presents a very curious appearance. *Pteris* also appears to be able to colonize new ground more quickly than either species of *Ulex*. On the hill-slopes, where land has passed out of cultivation, the fence marking the limit of former tillage often also marks a strong boundary between *Pteris* and *U. Gallii*, the former having been first to get into the abandoned ground, and the *U. Gallii*, which would normally be dominant on the area in question, having been unable to oust it.

The conditions under which the dependent species of the *Pteris* association live, differ from those obtaining in the domain of *Ulex* or *Calluna*, in that the dominant species is deciduous. The undergrowth, richly fed with humus, is in winter open to the sky; but during the summer season shaded under the arching canopy of fronds. The conditions resemble those which obtain in deciduous woods, and a number of vernal woodland plants are present. In May the Bracken areas often exhibit glorious sheets of blue, white, and yellow, due to abundance of *Scilla nutans*, *Viola sylvatica*, *Veronica Chamædrys*, *Anemone nemorosa*, *Oxalis Acetosella*, *Conopodium denudatum*, *Ranunculus Ficaria*, *Primula vulgaris*. Owing to our work having been perforce largely carried on during the winter months, this feature of the *Pteris* association is understated in our statistics.

COMPOSITION OF PTERIS ASSOCIATION.

Number of stations examined—four.

| | |
|-----------------------------------|----------------------------------|
| <i>PTERIS AQUILINA.</i> 4. | <i>Rumex Acetosa.</i> 4. |
| <i>Agrostis vulgaris.</i> 4. | <i>Cratægus Oxyacantha.</i> 3. |
| <i>Galium saxatile.</i> 4. | <i>Rubus fruticosus.</i> 3. |
| <i>Potentilla Tormentilla.</i> 4. | <i>Lonicera Periclymenum.</i> 3. |
| <i>Viola sylvatica.</i> 4. | <i>Scabiosa succisa.</i> 3. |

| | |
|---------------------------|------------------------|
| Teucrium Scorodonia. 3. | Solidago Virgaurea. |
| Hypochæris radicata. 3. | Bellis perennis. |
| Holcus mollis. 3. | Senecio Jacobæa. |
| Festuca ovina. 3. | Achillæa Millefolium. |
| Vaccinium Myrtillus. 3. | Taraxacum officinale. |
| Pedicularis sylvatica. 3. | Leontodon autumnalis. |
| Ulex Gallii. 2. | Calluna vulgaris. |
| Ilex Aquifolium. 2. | Erica cinerea. |
| Stellaria Holostea. 2. | Primula vulgaris. |
| Digitalis purpurea. 2. | Digitalis purpurea. |
| Trifolium repens. 2. | Veronica montana. |
| Hypericum pulchrum. 2. | Plantago major. |
| Jasione montana. 2. | P. lanceolata. |
| Rumex Acetosella. 2. | Corylus Avellana. |
| Veronica officinalis. 2. | Scilla nutans. |
| V. Chamædrys. 2. | Arum maculatum. |
| Lathyrus macrorrhizus. 2. | Luzula maxima. |
| ————— | L. campestris. |
| Anemone nemorosa. | Carex binervis. |
| Ranunculus repens. | Anthoxanthum odoratum. |
| R. acris. | Holcus lanatus. |
| Cerastium triviale. | Dactylis glomerata. |
| Stellaria graminea. | Poa pratensis. |
| Oxalis Acetosella. | P. annua. |
| Ulex europæus. | Athyrium Filix-fœmina. |
| Trifolium pratense. | Polygala depressa. |
| Vicia sepium. | Lastrea dilatata. |
| Prunus spinosa. | Polypodium vulgare. |
| Rosa canina. | Hypnum tamariscinum. |
| Hedera Helix. | Polytrichum. |
| Conopodium denudatum. | |

The Nardus Association. (N.)

From the list of plants to be given subsequently as being characteristic of the *Calluna* association, it will be seen that the grass *Nardus stricta* is a conspicuous feature of this association in the moorland zone. In two or three small areas, however, outside of this association, and rather in the zone of hill-pasture than that of moorland, this grass becomes predominant.

The largest of these is situated south of Brittas. Here on

flat ground, in a rather broad valley, we have a rough, grassy heath, with the following plants associated together :—

| | |
|------------------------|-------------------------|
| NARDUS STRICTA. | Potentilla Tormentilla. |
| Molinia varia. | Ranunculus repens. |
| Agrostis vulgaris. | Galium saxatile. |
| Juncus squarrosus. | Calluna vulgaris. |
| Scabiosa succisa. | Ulex Gallii. |
| Polygala vulgaris. | Carex glauca. |
| Pedicularis sylvatica. | Vaccinium Myrtillus. |
| Juncus acutiflorus. | Festuca ovina. |
| J. communis. | Cnicus palustris. |
| Holcus lanatus. | Dactylis glomerata. |

The smaller areas near the extreme southern boundary of our map at Scarlock's Leap, and in Glencree, have a similar composition.

THE MOORLAND ZONE.

Above the limits of the *Ulex Gallii* association, the hills are everywhere tenanted by one or other of the associations of the moorland type. The most conspicuous of the moorland associations, partly because of its great extent, and partly because it usually occupies the lower slopes, where it meets the eye, is the familiar *Calluna* moor. On the higher grounds, where the flatter surface of the ground impedes drainage, and precipitation and exposure are increased, *Calluna*, though still always present, becomes less predominant, and one or more of several other plants become conspicuous, forming types which may be distinguished as the *Eriophorum* moor, the *Scirpus* moor, and the *Racomitrium* moor. The ground over 1500 feet, except where drainage happens to be good, is usually in possession of one or other of these associations.

It may be pointed out at once that the *Calluna* type of moor, which is often well developed over large areas of thick peat, was probably not the association to whose growth the peat is due. This was a wetter, faster-growing association, full of *Cyperaceæ* and *Sphagnum*, which are but sparingly present in the *Calluna* moor—such an association, in fact, as those which now occupy the flatter, higher grounds.

The *Calluna* Association. (C.)

Calluna is absolutely dominant on the mountains wherever drainage is good. This is sometimes effected by the slope of the ground,

sometimes, as notably on Kippure, by the existence of underground water-channels, at the bottom of a solid covering of peat. In this district, as elsewhere in the British Isles, the *Calluna* association is the most marked association in the whole vegetation, and no other plant-group is so entirely under the dominance of its leading member. The lower limit of the *Calluna* heath is generally the effect of the cessation of thick peat. As regards its upper limit, this is generally a question of drainage, and in the more level bogs of the broad ridges and flat domes of the granite hills, *Calluna* becomes stunted and thin, and *Cyperaceae* more and more conspicuous. The upper limit of *Calluna* is not determined in our district by elevation; where drainage allows, the plant remains, on the whole, dominant right up to the tops of the mountains. It, however, becomes here much dwarfed in stature, and its dominance is partially threatened by much moss and *Empetrum*. The present distribution of *Calluna* is, in some measure, artificial. Turf-cutting is largely carried on in the peat which underlies the wetter associations of the higher grounds; and everywhere *Calluna* follows the better drainage conditions produced by these human operations. That drainage brings in this association in the midst of the sopping wet *Scirpus* association is also well seen in the streaks of *Calluna* accompanying the streams which run through the latter association, the better-drained banks of the streams being immediately seized upon by the *Calluna*.

In well-drained ground, especially near its lower limit, *Calluna* grows luxuriantly—a dense, uniform growth, two to three feet in height, with a continuous undergrowth of mosses, among which *Listera cordata*, *Molampyrum pratense*, and other plants grow as dependent species. As we proceed upward, the change from the *Calluna* type of moor to the *Scirpus* type is often gradual. The heather becomes by degrees more stunted, and *Cyperaceae* gradually increase. Thus, there is often a wide band which was mapped as CS (i.e. *Calluna* dominant, with much *Scirpus caespitosus*), followed by another wide band of SC (i.e. *Scirpus* dominant, with much *Calluna*). This latter type, indeed, is the characteristic one of much of the high ground of the Dublin mountains, covering large areas; only here and there is the ground so unfitted for the growth of *Calluna* that a practically pure *Scirpus* association results.

As regards the conditions under which this association is developed in our area, it will thus be seen that, as far as soil is concerned, a certain amount of peat is necessary, and the drainage of this must be fairly good. The association is influenced too by its exposure to wind.

This is such as to preclude the growth of any trees, the only exception being, perhaps, a few individuals of *Pyrus Aucuparia*, which one may find in the high ground, with their crowns kept well below the level of the tops of the gullies in which they grow. The *Calluna* plants themselves, too, lie, at any rate in the more exposed places, with their axes parallel to the direction of the prevalent winds, i.e., from west to east, as can be clearly seen when, after burning, the exposed side of some rounded hill presents the appearance of some gigantic head, the coarse hair of which has been combed down in one direction. It may be mentioned here that this burning of the heather is a regular operation performed for the purpose of providing the tender young tops of the new *Calluna* for grouse-feeding. But burning is also carried on, though apparently less methodically, in the two *Ulex* associations. This results in a stimulus to the sward-producing plants for the first few years at least, and so produces rather more food for sheep-grazing. The heat produced by this burning does not seem sufficient to kill seeds which may be lying on the surface or in the soil, for on several occasions, as on Carrickgollaghan, we noted young seedlings of *U. Gallii* in thousands springing up on ground from which the old bushes had been recently removed by burning.

As regards precipitation, the *Calluna* moor, along with the *Eriophorum* and *Scirpus* moors, occupies localities where this is probably at its maximum in our area; but whereas on the two latter types of moor, the rain which falls remains and forms a sopping wet bog, on the *Calluna* moor, as stated before, the drainage is fairly good. The upper regions, at certain parts of the year at any rate, are constantly enveloped in mist and cloud, so that the amount of available sunlight is then seriously diminished; this occurs chiefly during the colder part of the year. In the summer, however, the *Calluna* moor is exposed at times to the scorching rays of the sun, and must, therefore, be able to withstand considerable periods of drought.

A glance at the list of plants composing the association shows that, with the exception of the hemi-parasite *Melampyrum pratense*, and possibly its congener *Pedicularis sylvatica*, all the species are perennial. A number of these are evergreens, and their leaves, such as those of *Calluna* itself, *Erica cinerea*, *E. Tetralix*, *Vaccinium Vitis-Idææ*, *Empetrum*, &c., show well those peculiarities of structure characteristic of xerophytes.¹

¹ For a discussion and description of these structural peculiarities, see Kerner and Oliver, "The Natural History of Plants," vol. i., p. 300; Miall, "Round the Year," p. 208; Niedenzu, Engler's Bot. Jahrbücher, 1889-90, p. 134.

Many of the rest of these perennials have deciduous leaves in which xerophytic characters are less pronounced, such as in *Vaccinium Myrtillus*, in which the green twigs remain above ground after the leaves have fallen. In *Listera cordata*, *Narthecium ossifragum*, *Pteris Aquilina*, not only is the whole of the summer foliage lost, but the stems of the plants pass the winter underground. The leaves of *Pteris*, as is now well known,¹ are very plastic in structure, and in exposed places show xerophytic characters, while under other conditions they may be of the shade type. The leaves of the Bog Asphodel (*Narthecium*) are of the isobilateral type, standing in a vertical plane, and are thus, as Warming points out,² of a xerophytic nature. On the other hand, *Listera cordata* is essentially a shade-loving species, and its leaves are not xerophytic in character; and the same may be said of *Oxalis Acetosella*, though here a few leaves may be found on plants in sheltered positions throughout the winter.

As regards the grasses and sedges, these may be practically regarded as deciduous; for while some of the leaves are on the plants throughout the winter, they are, as a rule, undeveloped, and well protected by the dead blades and sheaths of the previous summer's growth. Nevertheless, the leaves of many of these at least show xerophytic characters, well seen, for instance, in *Nardus*, *Festuca ovina*, *Scirpus cæspitosus*, and the two Cotton-grasses.

COMPOSITION OF CALLUNA ASSOCIATION.

Number of stations examined—nine.

| | |
|----------------------------|-----------------------|
| CALLUNA VULGARIS. 9. | Sphagnum spp. 5. |
| JUNCUS SQUARESUS. 8. | AGROSTIS VULGARIS. 4. |
| VACCINIUM MYRTILLUS. 8. | Festuca ovina. 4. |
| NARDUS STRICTA. 8. | Blechnum Spicant. 4. |
| Carex binervis. 7. | — |
| POTENTILLA TORMENTILLA. 6. | Polygala depressa. 1. |
| ERICA CINEREA. 6. | Oxalis Acetosella. 1. |
| Galium saxatile. 6. | Ulex Gallii. 3. |
| Luzula maxima. 5. | Pyrus Aucuparia. 1. |
| Scirpus cæspitosus. 5. | Scabiosa succisa. 1. |

¹ Boodle, Linn. Soc. Journal, Bot., vol. xxv., 1904, p. 659.

² Warming, "Lehrbuch der ökologischen Pflanzengeographie," 1896, pp. 175, 183.

| | |
|----------------------------------|------------------------------------|
| <i>Erica Tetralix.</i> 1. | <i>C. pilulifera.</i> 2. |
| <i>Pedicularis sylvatica.</i> 1. | <i>Anthoxanthum odoratum.</i> 1. |
| <i>Melampyrum pratense.</i> 1. | <i>Deschampsia flexuosa.</i> 2. |
| <i>Empetrum nigrum.</i> 3. | <i>Molinia cærulea.</i> 2. |
| <i>Listera cordata.</i> 2. | <i>Triodia decumbens.</i> 1. |
| <i>Juncus effusus.</i> 1. | <i>Pteris Aquilina.</i> 2. |
| <i>Luzula campestris.</i> 1. | <i>Lastrea dilatata.</i> 2. |
| <i>Narthecium ossifragum.</i> 1. | <i>Racomitrium lanuginosum.</i> 2. |
| <i>Eriophorum vaginatum.</i> 2. | <i>Polytrichum.</i> 1. |
| <i>E. angustifolium.</i> 1. | <i>Cladonia rangiferina.</i> 3. |
| <i>Carex glauca.</i> 3. | |

The Vaccinium Association. (V.)

Although *Vaccinium Myrtillus* is a constant ingredient of all the hill associations from *Ulex Gallii* upward, the wet *Scirpus* ground (to be described presently) excepted, it never grows luxuriantly except on well-drained, rocky slopes. These vary greatly in elevation, from a few hundred feet on Bray Head to over 2000 feet on the hills. Over any considerable area, however, it becomes dominant only in one locality in the district—namely, along the summit of the precipitous slopes that overlook Upper and Lower Lough Bray, at an elevation of 1600 to 1800 feet. Here a characteristic “*Vaccinium* edge” is developed, where the higher, wet *Scirpus* moors give way at first to a narrow fringe of fairly typical *Calluna* ground, and as soon as the broken granite cliffs are reached, *Vaccinium Myrtillus* becomes the dominant plant among the rocky edges and slopes.

The association here is composed as follows:—

| | |
|------------------------------|------------------------------|
| VACCINIUM MYRTILLUS. | <i>Melampyrum pratense.</i> |
| <i>Calluna vulgaris.</i> | <i>Luzula maxima.</i> |
| <i>Vaccinium Vitis-Idæa.</i> | <i>Deschampsia flexuosa.</i> |
| <i>Oxalis Acetosella.</i> | <i>Blechnum Spicant.</i> |
| <i>Galium saxatile.</i> | |

The Scirpus Association. (S.)

In the lower parts of the moorland zone, especially on the flatter and badly-drained places, such as the larger areas on the slopes of Kippure at the south end of Glenasmole, the *Calluna* moor is gradually displaced by a true bog association in which the predominating plant

is *Scirpus caespitosus*, although, as a rule, mixed with a considerable amount of stunted and apparently poorly-thriving *Calluna*. The soil is thick peat, and, except in the hottest part of summer, when the surface may be comparatively dry, it is thoroughly saturated with water. Where the *Scirpus* grows in considerable tufts which are only fairly close together (as, for example, on the flats above Glenasmole), and separated by a network of spaces of soppy peat, the slipperiness thus produced makes walking over these bogs a very tiring operation. In a few areas, however, where the *Calluna* and other associates are very few and far between, the surface of the ground is remarkably smooth, hard, and wet, and resembles that of a lawn, with a vegetation of a uniform height of about six inches. Under these circumstances the association, in what we may call its pure form, contains remarkably few species, as the following list shows:—

Station 56.

| | |
|-----------------------------------|---------------------------|
| <i>Scirpus caespitosus</i> . | <i>Calluna vulgaris</i> . |
| <i>Narthecium ossifragum</i> . | <i>Erica Tetralix</i> . |
| <i>Eriophorum angustifolium</i> . | <i>Sphagnum spp.</i> |

Of these, the first two are the only species which are at all abundant, the rest being found scattered here and there; the *Calluna* in particular coming in only occasionally as odd tufts, or little islands in the sea of *Scirpus*.

A combination of the lists for the *Scirpus* association in its pure form from five stations, gives the following:—

| | |
|--------------------------------------|-------------------------------------|
| <i>Scirpus caespitosus</i> . 5. | <i>Drosera rotundifolia</i> . 2. |
| <i>Calluna vulgaris</i> . 5. | <i>Andromeda Polifolia</i> . 2. |
| <i>Eriophorum angustifolium</i> . 5. | <i>Erica cinerea</i> . 1. |
| <i>Erica Tetralix</i> . 5. | <i>Empetrum nigrum</i> . 1. |
| <i>Narthecium ossifragum</i> . 5. | <i>Eriophorum vaginatum</i> . 2. |
| <i>Sphagnum spp.</i> 4. | <i>Racomitrium lanuginosum</i> . 1. |
| — | <i>Cladonia rangiferina</i> . 2. |

More commonly, however, the amount of *Calluna*, *E. Tetralix*, and *Eriophorum angustifolium* is considerable; and the association loses its lawn-like character, being, however, not unpleasant to walk over, except for the wet. The composition of the associa-

tion on these wider areas may be gauged from the following list :—

Station 67. West of Lough Bray, 1900 feet. 3.10.03.

"A smooth expanse of brown, grassy bog, with an almost continuous undergrowth of dwarf *Calluna*."

SCIRPUS CÆSPITOSUS.

CALLUNA VULGARIS.

SPHAGNUM spp.

RACOMITRIUM LANUGINOSUM.

ERICA TETRALIX.

Andromeda Polifolia.

Empetrum nigrum.

NARTHECIUM OSSIFRAGUM.

Eriophorum angustifolium.

Cladonia rangiferina.

Amongst these species attention may be called to the presence of *Andromeda Polifolia*,¹ a species rare locally, and confined, so far as our observations go, to this association. *Narthecium ossifragum* is a very characteristic member, attaining an abundance in this association which it does not find elsewhere.

All the above plants are perennials. The deciduous leaves and fading stems of *Scirpus* impart to the association in autumn a characteristic golden-brown colour, which is only very slightly influenced by the mixture of the fading leaves of *Narthecium* and of the small quantity of *Eriophorum angustifolium*.

Owing to the accumulation of this fading plant-débris and the subsequent growth of the plants through it again, and to the fact that plants like *Sphagnum* and *Racomitrium* are constantly dying off below in proportion as they extend their growth above, there is a steady though slow growth upwards in the association as a whole. This is often a well-marked feature, for where the transition from the *Calluna* to the *Scirpus* associations is a sharp one, as it not unfrequently is, the *Scirpus* area is seen to be several feet above the level of the *Calluna* ground. This comes out, though imperfectly, in our illustration of this association (Plate IX.), where the depressions in the middle foreground and in the left hand top corner are occupied with fairly pure *Calluna*, whereas the rest of the area is covered with the *Scirpus* association, mixed, it is true, in this particular case with rather more *Eriophorum angustifolium* than usual.

¹ Parasitic on the leaves of this plant we found the ascomycete *Rhytisma andromede* Pers., a fungus hitherto unrecorded, we believe, for the Counties Dublin and Wicklow, or, for that matter, for Ireland.

We have, therefore, in our *Scirpus* association one in which peat is still being formed at the present time, and it is from this association almost solely, in our area, that peat is cut for fuel; so much so that when we saw a dotted road amongst the moors shown on the map, we were practically certain on reaching its branching ends to find ourselves in the midst of this association. It is at these points, too, as mentioned before, that we find that, owing to the improved drainage caused by turf-cutting, the bog ceases to grow, and becomes invaded by the *Calluna* association.

Without doubt peat, too, is being accumulated at the present day in the *Eriophorum* areas which we shall presently describe; but, as a rule, these are on much higher ground, and, consequently, not so accessible as the *Scirpus* areas for turf-cutting.

In former times, doubtless, these two peat-forming associations were spread far and wide over the mountains in our district, and we believe that the thick caps of peat on our mountain summits were probably formed in this way. At the present day, however, owing to altered climatic conditions, and especially to the improved drainage both above and below ground, not only are the peat-forming plant associations absent, but even the *Calluna* associations present are, with great difficulty, struggling to hold their own against the denuding agents which are carrying off the surface vegetation and the underlying peat, leaving a wilderness of devastation behind.

We have not found time to examine the peat deposits in any detail for evidence of the climatic conditions of former days, but we may mention that in these peat areas we have found remains of trees such as Scots Pine and Birch at about 1250 and 1700 feet, respectively.

To return to the plants of which the association is composed, all of them show well-marked xerophytic characters. The reasons for this are not at once obvious, as it would seem unnecessary for plants living in such wet places to take special precautions against excessive transpiration. A wet soil, however, is a cold one; and it is possible that the difficulty of absorption by the roots, owing to the low temperature of the soil, caused not only by the presence of water in it, but also by the evaporation taking place during the strong winds in spring, coupled with the drying tendency of the winds themselves on the overground parts, results in the presence of plants with drought-resisting characters.

Again, we know the tenacity with which peat holds water; and it is possible that this is so great that the living plants have difficulty

in robbing the dead and decaying parts of themselves of this liquid.

It might be supposed, too, that the decay of the vegetation, although at best only partial in peat, would give rise to substances which would dissolve in the excess of water, and exert an influence osmotically, similar to what is known to be the case in salt marshes. Schimper,¹ in fact, emphasizes the point that in the very sour humus of bogs the vegetation assumes a distinctly xerophytic character because the humus acids hinder the absorption of water by the roots.

Livingston,² on the other hand, has recently shown that the osmotic pressure of bog-water, as determined by the freezing-point method, shows almost no increase in amount over that of ordinary lake or river water. He concludes that it must be the *chemical* nature of the very small amounts of dissolved substances in bog-waters which prevents ordinary swamp-plants from growing in them. This, of course, does not explain the xerophytism of our bog-plants; but if this view is correct, neither can we explain it by the assumption of the presence of osmotically active soluble humus compounds in the bog-water.

Lastly, it must be remembered that at times in the summer the surface-layers of such a bog may become very dry, so that one may walk dry-shod over it, and hence provision on the part of the plants against such periods is necessary. The whole question, however, is one on which more information is wanted.³

The Eriophorum Association. (E.)

Though both species of cotton-grass are almost always present in small quantities throughout the moorland, it is only occasionally, and at high altitudes, that they become dominant. We surveyed many square miles of mountain, tenanted by the *Calluna* and *Scirpus* associations, before we found any trace of what might be fairly described as *Eriophorum*-moor. From the map it will be seen that this type of vegetation is rare on the hills; quite the best example of it is a large patch of sloping deep bog above the butts of the main Kilbride rifle-range (2364 feet downwards). Here the ground presents a waving surface

¹ Schimper, "Pflanzengeographie," 1898, p. 124.

² Livingston, "Physical Properties of Bog-Water," Bot. Gazette, xxxvii., p. 363, 1904. Ref. in Bot. Centralblatt, 96, p. 269, 1904.

³ For a discussion of the xerophytic characters of these plants, see Warming, "Pflanzengeographie," 1896, p. 174

of the grassy leaves of *E. angustifolium*, plentifully intermixed with the more *Scirpus*-like foliage of *E. vaginatum*. In autumn, the hill-side glows with a beautiful dark red as the leaves fade. Below the uniform waving foliage of the cotton-grass is a continuous, dense, stunted growth of *Calluna*, with several of the plants of the *Calluna* and *Scirpus* associations; but *Scirpus caespitosus* itself is apparently checked by the cotton-grasses, and occurs only in occasional patches, conspicuous in autumn on the red carpet by their golden-brown colour. The soil is a thick, sopping peat, and quite spongy to the foot, in this respect differing from the *Scirpus* bog. It would appear, then, that on the higher grounds the undrained areas are bogs dominated chiefly by *Eriophorum angustifolium*, whereas the lower-level bogs are *Scirpus caespitosus* bogs. The composition of the two associations, not taking the dominating species into account, is very similar, but *Narthecium ossifragum* is conspicuous by its absence, apparently, from the cotton-grass bog, while *Vaccinium Vitis-Idæa* is absent from the *Scirpus* bog.

COMPOSITION OF THE ERIOPHORUM ASSOCIATION.

Number of stations examined—three.

| | |
|---------------------------------|----------------------------------|
| CALLUNA VULGARIS. 3. | <i>Scirpus caespitosus</i> . 3. |
| ERIOPHORUM ANGUSTIFOLIUM. 3. | <i>Cladonia rangiferina</i> . 2. |
| <i>E. vaginatum</i> . 3. | <i>Vaccinium Vitis-Idæa</i> . 1. |
| <i>Empetrum nigrum</i> . 3. | <i>Erica Tetralix</i> . 1. |
| <i>Vaccinium Myrtillus</i> . 3. | <i>Sphagnum spp.</i> 1. |

The Racomitrium Association. (R.)

The three types of moorland which we have just described—the dry *Calluna* moor, and the two kinds of high-level or black bog (the *Scirpus* and *Eriophorum* associations)—are very distinct in character, and are easily mapped, except in some cases where the absence of boundaries, streams, &c., from the map makes the determination of the exact areas covered by the associations a little difficult to settle.

Considerable areas of the moorland in our district are, on the other hand, clothed with a vegetation which consists of a mixture of the above three types, and that in varying proportions in different localities. These areas have, however, one feature in common, and that is that more or less conspicuous bosses of the moss *Racomitrium*

lanuginosum are present, and, further, the surface of the ground is, as a rule, much broken up, so that pools often of considerable size are also present. The association in this case, then, has not been named so much from its dominant plant—which, as will be seen presently, is usually *Calluna*—as from its most conspicuous one.

The *Racomitrium* association hence in some areas, as notably, for instance, on the flat land immediately south of Montpelier dry gap, is apparently a specially wet form of the *Calluna* heath, and *Erica Tetralix* figures considerably in its composition. The bosses of *Racomitrium* here are not, as a rule, very large, but pools of water are plentiful. *Scirpus*, *Eriophorum*, and *Empetrum* are fairly abundant, as well as *Drosera* and *Pinguicula*. In other areas, as, for example, south-east of the summit of Killakee, and along a strip running north from Lower Lough Bray, the association more nearly approaches a *Scirpus* bog in which innumerable and fairly large bosses of *Racomitrium* occur. On still higher ground the association sometimes contains a fairly conspicuous amount of cotton-grass. Finally we have mapped two not very large areas under this heading which differ very considerably from the above three types. They are a small area on the summit of Prince William's Seat (1822 feet), and a larger one on the summit of Killakee Mountain (1761 feet). Characteristic of these two spots is the fact that the peat doubtless formerly present has now been almost entirely denuded away, exposing the gravelly barren soil derived from the granite. On these dry areas the *Racomitrium* spreads horizontally, rather than into high bosses, and the whole aspect is that rather of a moss-tundra. Along with the *Racomitrium* we find plentifully interspersed *Empetrum* and dwarf *Calluna*, while much less abundant are the following species:—

| | |
|-------------------------------|-------------------------------|
| <i>Vaccinium Myrtillus</i> . | <i>Festuca ovina</i> . |
| <i>Erica cinerea</i> . | <i>Juncus squarrosus</i> . |
| <i>Ulex Gallii</i> . | <i>Luzula multiflora</i> . |
| <i>Deschampsia flexuosa</i> . | <i>Cladonia rangiferina</i> . |
| <i>Agrostis vulgaris</i> . | |

Ground similar to this in respect of the abundance of *Calluna*, *Racomitrium*, and *Empetrum*, but differing from it in that the soil is a thick peat, well drained by subterranean water-channels, is found on the upper slopes of Kippure; speaking generally, above the 1750 feet contour line. This, however, we have mapped as *Calluna* ground, this plant, though dwarfish, undoubtedly preponderating. To return to the *Racomitrium* association in its more typical or wet facies. As

mentioned above, the ground is very uneven, so that walking over it is troublesome; nay, in some localities it is a case of jumping from island to island, rather than walking at all. In these latter areas the form of the ground is due primarily to the denuding action of the weather, the softer parts of the peat being removed, and the hollows thus formed becoming pools in which *Sphagnum* and *Eriophorum* flourish, *Scirpus* finding a foothold on the margin. These pools are, in some cases, isolated, in others connected together in a complex network. The islands of undenuded peat are clothed on their sheltered sides (east) with stunted *Calluna*, *Empetrum*, and *Erica Tetralix*, while on their western and exposed faces *Racomitrium* loves to disport itself.

In some cases, however, the unevenness of the ground is due to the growth of the bosses of *Racomitrium* itself. As before, *Calluna*, *Empetrum*, and *E. Tetralix* flourish in the shelter of the east sides of these bosses, while the growing part of the *Racomitrium* spreads its face westwards. Hence it comes about that the *Racomitrium* moor presents two rather different aspects, according as to whether one looks at it from the east or from the west. As will be apparent from the photograph reproduced herewith, on looking at the association from the west, the *Racomitrium* bosses are very conspicuous.

The composition of this varying and, perhaps, too artificial association, in its wet forms, will be seen from the following compiled analysis:—

COMPOSITION OF THE RACOMITRIUM ASSOCIATION.

Number of stations examined—eight.

| | |
|------------------------------|----------------------------|
| CALLUNA VULGARIS. 8. | Potentilla Tormentilla. 4. |
| SCIRPUS CÆSPITOSUS. 8. | Narthecium ossifragum. 3. |
| RACOMITRIUM LANUGINOSUM. 8. | — |
| ERIOPHORUM ANGUSTIFOLIUM. 8. | Ulex Gallii. 2. |
| Empetrum nigrum. 8. | Drosera rotundifolia. 2. |
| Sphagnum spp. 7. | Pinguicula vulgaris. 1. |
| Cladonia rangiferina. 7. | Luzula maxima. 1. |
| ERICA TETRALIX. 6. | Carex glauca. 1. |
| JUNCUS SQUARROSUS. 4. | C. binervis. 1. |
| Eriophorum vaginatum 4. | Molinia cærulea. 2. |
| Vaccinium Myrtillus. 4. | Nardus stricta. 1. |
| | Polytrichum. 1. |

The Juncus Associations. (J.)

Rushes form the dominant species in at least two associations which are found on different kinds of ground. The first of these may be distinguished as the *Juncus-Polytrichum* association. Where springs on the hill-sides produce sloping wet patches or lines, *Juncus communis*, often intermixed with *J. acutiflorus*, grows in luxuriant groves, with a dense undergrowth of lax bright green *Sphagnum*, and *Polytrichum* growing a foot high. This association has, like *Pteris*, a considerable vertical range, being found high up on the *Calluna* moors (to nearly 2,000 feet), and thence descending in green lines or broad beds well down into the *Ulex Gallii* area. At a distance, especially in the moorland zone among *Calluna*, the islands which this association forms stand out conspicuously in spring and summer by their greenness, and in winter by their greyness. The flora is everywhere limited and uniform, and the following list will show its average composition:—

COMPOSITION OF JUNCUS-SPHAGNUM ASSOCIATION.

Number of stations examined—four.

| | |
|----------------------------|------------------------------|
| JUNCUS COMMUNIS. 4. | Carex stellulata. 2. |
| SPHAGNUM spp. 4. | Rumex Acetosa. 2. |
| JUNCUS ACUTIFLORUS. 4. | — |
| POLYTRICHUM. 4. | Ranunculus Flammula. 1. |
| Potentilla Tormentilla. 4. | Calluna vulgaris. 1. |
| Holcus mollis. 3. | Pedicularis sylvatica. 1. |
| Agrostis vulgaris. 3. | Eriophorum angustifolium. 1. |
| Galium saxatile. 3. | Carex vulgaris. 1. |
| Juncus squarrosus. 2. | Nardus stricta. 1. |

This association forms also a fairly conspicuous fringe along the edges of the high level Military Road, which rises to 1,600 feet. This is due to the alteration in drainage caused by the presence of the road itself. Running parallel to it, on its east side, is an almost continuous and more or less regular water-channel, which receives the drainage from the *Calluna* slopes above. At several spots the water from this channel flows under, and sometimes over, the road, and thus the wet side of the road also has a considerable fringe of rushes. At those

points, where the discharge of water and gravel from the road is considerable, the fringe is continued and expanded as the water continues its way down the valley-side into Glenasmole. Hence it comes about that this slope has a considerable portion of its area covered by larger or smaller patches of this association, which are indicated on the map.

The two factors which appear to determine the presence of this association on the high grounds are—plenty of water which is not stagnant, but on the move, frequently derived from springs (but brown in colour, and containing humus material); and secondly, the presence of a certain amount of gravelly soil derived by the decomposition of the granite, rushes apparently finding any thickness of black peat rather an uncongenial substratum for their roots.

The presence of an abundance of water, at least on the surface, would not, however, appear to be always a necessity for the presence of considerable masses of *Juncus*. Thus, on a peculiarly dry spot in the *Calluna* area, we find the association developed as follows:—

| | |
|-----------------------------|--------------------------------|
| <i>JUNCUS COMMUNIS.</i> | <i>Galium saxatile.</i> |
| <i>LUZULA MAXIMA.</i> | <i>Potentilla Tormentilla.</i> |
| <i>POLYTRICHUM COMMUNE.</i> | <i>Vaccinium Myrtillus.</i> |
| <i>Sphagnum spp.</i> | <i>Calluna vulgaris.</i> |
| <i>Rumex Acetosella.</i> | <i>Deschampsia flexuosa.</i> |

Again, it must not be supposed that the presence of rushes always indicates the absence of peat. In the Piperstown bog, a small area south of Mountpelier dry gap, at an elevation of 1100 feet, we find the only deposit of peat sufficiently thick to justify the Geological Survey officers in inserting it as such on the recently-published drift survey of Sheet 112 of the one-inch Ordnance map. Here rushes flourish, together with sedges, and the following amongst other species:—

| | |
|------------------------------------|--------------------------------|
| <i>Eriophorum spp.</i> | <i>Potentilla Tormentilla.</i> |
| <i>Drosera rotundifolia.</i> | <i>Pedicularis sylvatica.</i> |
| <i>Potamogeton polygonifolius.</i> | <i>Veronica scutellata.</i> |
| <i>Viola palustris.</i> | |

The peat cut from this bog for fuel differs considerably in its vegetable composition from that cut, as is usually the case in our area, from a *Scirpus* bog.

A somewhat similar development of the *Juncus* association also occurs not infrequently in the *Ulex Gallii* area, where the drainage is bad, and the ground becomes waterlogged. Here we find the association composed as follows :—

| | |
|------------------------------|------------------------------------|
| <i>JUNCUS EFFUSUS.</i> | <i>Pinguicula vulgaris.</i> |
| <i>J. ACUTIFLORUS.</i> | <i>P. lusitanica.</i> |
| <i>J. squarrosus.</i> | <i>Narthecium ossifragum.</i> |
| <i>Ranunculus Flammula.</i> | <i>Potamogeton polygonifolius.</i> |
| <i>Viola palustris.</i> | <i>Carex stellulata.</i> |
| <i>Hypericum elodes.</i> | <i>C. glauca.</i> |
| <i>Drosera rotundifolia.</i> | <i>C. flava.</i> |
| <i>Hydrocotyle vulgaris.</i> | <i>Molinia cærulea.</i> |
| <i>Erica Tetralix.</i> | <i>Sphagnum spp.</i> |
| <i>Anagallis tenella.</i> | |

Again, in the same "G" area, interesting wet spots occur here and there, especially on the northern slopes of the Two-rock group, which show the following composition :—

| | |
|----------------------------|--------------------------------|
| <i>Juncus acutiflorus.</i> | <i>Scabiosa succisa.</i> |
| <i>J. lamprocarpus.</i> | <i>Viola palustris.</i> |
| <i>J. squarrosus.</i> | <i>Narthecium ossifragum.</i> |
| <i>J. supinus.</i> | <i>Drosera rotundifolia.</i> |
| <i>Carex flava.</i> | <i>Pedicularis sylvatica.</i> |
| <i>C. glauca.</i> | <i>Ranunculus Flammula.</i> |
| <i>C. stellulata.</i> | <i>Potentilla Tormentilla.</i> |
| <i>C. binervis.</i> | <i>Lycopodium Selago.</i> |
| <i>Nardus stricta.</i> | <i>Polytrichum.</i> |
| <i>Calluna vulgaris.</i> | <i>Sphagnum.</i> |

This type of the association may be looked upon as forming a sort of transition from the more typical high-level *Juncus-Polytrichum* association to that about to be described.

The second type of *Juncus* association is developed chiefly on the lower grounds, and is of a marshy-pasture nature. No attempt has been made to indicate on the map published herewith the numerous small areas, consisting of badly-drained fields, which occur in the agrarian zone. Where, however, there are large areas of marshy ground, as, for instance, south of Brittas, it has been possible to include them on the map.

A list of the plants on one of these areas runs as follows —

| | |
|--------------------------------|------------------------------------|
| <i>JUNCUS COMMUNIS.</i> | <i>Rumex Acetosa.</i> |
| <i>J. ACUTIFLORUS.</i> | <i>Veronica Chamædrys.</i> |
| <i>Scabiosa succisa.</i> | <i>Cardamine pratensis.</i> |
| <i>Agrostis vulgaris.</i> | <i>Holcus lanatus.</i> |
| <i>Deschampsia cæspitosa.</i> | <i>Ranunculus Flammula.</i> |
| <i>Nardus stricta.</i> | <i>R. repens.</i> |
| <i>Cnicus palustris.</i> | <i>Triodia decumbens.</i> |
| <i>Ranunculus acris.</i> | <i>Carex glauca and other spp.</i> |
| <i>Potentilla Tormentilla.</i> | <i>Stellaria graminea.</i> |
| <i>Leontodon autumnalis.</i> | <i>Various mosses.</i> |
| <i>Spiræa Ulmaria.</i> | |

THE WOODLANDS. (F, W.)

Though much of the district strikes one as being well wooded, yet the trees are mostly arranged in narrow belts or single rows, and woods of any extent are rare. Native wood of any kind is extremely rare, and is confined to a few glen-banks and such places. The native species of the lower grounds include *Alnus glutinosa*, *Fraxinus excelsior*, *Corylus Avellana*, *Salix Caprea*. Along the mountain streams *Pyrus Aucuparia*, *Crataegus Oxyacantha*, *Ilex Aquifolium*, *Quercus Robur*, and *Betula pubescens*, often of great age, grow in rounded bush-like forms.

The planted woods consist chiefly of pines, standing in and about the slopes of the valleys of Glencullen and Glencree. In Glencree there is also a certain amount of oak-wood. The undergrowth of these woods is wholly natural. The following list will convey an idea of characters of these woods and their undergrowth, and of two areas of native "scrub."

1. Dry, shady Fir-wood, Ballybetagh, 844 ft.

Pinus sylvestris and *Larix*, with a little *Quercus* and *Betula*, and a mossy sward-like undergrowth:—

| | |
|-----------------------------|--------------------------------|
| <i>Vaccinium Myrtillus.</i> | <i>Anthoxanthum odoratum.</i> |
| <i>Rubus fruticosus.</i> | <i>Deschampsia flexuosa.</i> |
| <i>OXALIS ACETOSELLA.</i> | <i>Festuca ovina.</i> |
| <i>AGROSTIS VULGARIS.</i> | <i>Pteris Aquilina.</i> |
| <i>Stellaria Holostea.</i> | <i>Lastrea dilatata.</i> |
| <i>Galium saxatile.</i> | <i>Many moss-grown stones.</i> |

2. *Mixed deciduous wood, Glendhu, 900 ft.* With streamlet and some wet spots.

Trees, chiefly Beech, but also Elm, Sycamore, Birch, and some Scots Pine. Seedlings of Sycamore and Beech, self-sown, in undergrowth.

Shrubs.

Vaccinium Myrtillus.

Lonicera Periclymenum.

Rubus fruticosus.

Shade-loving Species.

OXALIS ACETOSELLA.

Athyrium Filix-fœmina.

Sanicula europæa.

Lastrea dilatata.

Geum urbanum.

Galium saxatile.

Ajuga reptans.

Luzula maxima.

Stellaria Holostea.

Damp-loving Species.

Cardamine pratensis.

Juncus communis.

Chrysosplenium oppositifolium.

Crepis paludosa.

Deschampsia cæspitosa.

Cnicus palustris.

Rumex Acetosa.

Other Species.

Ranunculus repens.

V. Chamædrys.

Viola sylvatica.

V. serpyllifolia.

Geranium Robertianum.

V. montana.

Epilobium montanum.

Senecio Jacobæa.

Sagina procumbens.

Deschampsia flexuosa.

Cerastium triviale.

Agrostis vulgaris.

Bellis perennis.

Holcus lanatus.

Digitalis purpurea.

Festuca ovina.

Prunella vulgaris.

Poa annua.

Veronica officinalis.

Blechnum Spicant.

3. *Oak-wood, Glencree.*

Well-grown OAKS, with a tolerably continuous undergrowth up to 12 feet in height of—

Pyrus Aucuparia.

Alnus glutinosa.

Cratægus Oxyacantha.

Salix aurita.

ILEX AQUIFOLIUM.

S. cinerea.

Fraxinus excelsior.

Betula pubescens.

With a substratum of—

Shrubs.

| | |
|----------------------|------------------------|
| VACCINIUM MYRTILLUS. | R. arvensis. |
| RUBUS FRUTICOSUS. | Lonicera Periclymenum. |
| Rosa canina. | Hedera Helix. |

Herbs.

| | |
|-------------------------|------------------------|
| Viola palustris. | Melampyrum pratense. |
| V. sylvatica. | Teucrium Scorodonia. |
| Stellaria Holostea. | Rumex Acetosa. |
| OXALIS ACETOSELLA. | LUZULA MAXIMA. |
| POTENTILLA TORMENTILLA. | L. vernalis. |
| Angelica sylvestris. | ANTHOXANTHUM ODORATUM. |
| GALIUM SAXATILE. | Athyrium Filix-fœmina. |
| Scabiosa succisa. | Lastrea Filix-mas. |
| Digitalis purpurea. | L. dilatata. |
| Veronica Chamædrys. | Polypodium vulgare. |

And several other grasses, and many mosses.

4. *Natural Hazel-scrub near Brittas, about 800 feet.*

| | |
|------------------------------|---------------------------|
| Thicket, about 12 feet high. | Hazel predominating over— |
| Prunus spinosa. | Pyrus Aucuparia. |
| Rubus fruticosus. | Lonicera Periclymenum. |
| Cratægus Oxyacantha. | Sambucus nigra. |

With an undergrowth of—

| | |
|-------------------------|------------------------|
| Ranunculus Ficaria. | V. officinalis. |
| Cardamine pratensis. | V. serpyllifolia. |
| Viola sylvatica. | Ajuga reptans. |
| Stellaria Holostea. | Rumex Acetosa. |
| Oxalis Acetosella. | SCILLA NUTANS. |
| Potentilla Tormentilla. | Holcus mollis. |
| Conopodium denudatum. | Athyrium Filix-fœmina. |
| Galium saxatile. | Pteris Aquilina. |
| Primula vulgaris. | Lastrea Filix-mas. |
| Digitalis purpurea. | L. dilatata. |
| Veronica Chamædrys. | |

5. *Glen in Calluna area along stream above Killakee, 1250 feet.*

| | |
|--|------------------------|
| Pyrus Aucuparia (as fairly large trees). | Cnicus palustris. |
| Salix cinerea. | Hypochaeris radicata. |
| S. aurita. | Rumex Acetosa. |
| Cratægus Oxyacantha. | R. Acetosella. |
| Ilex Aquifolium. | Luzula maxima. |
| Ulex Gallii. | L. multiflora. |
| U. europæus. | Juncus communis. |
| Lonicera Periclymenum. | J. squarrosus. |
| Vaccinium Myrtillus. | J. acutiflorus. |
| Calluna vulgaris. | Carex binervis. |
| Viola sylvatica. | Agrostis vulgaris. |
| V. palustris. | Festuca ovina. |
| Stellaria graminea. | Deschampsia flexuosa. |
| S. Holostea. | Holcus mollis. |
| Potentilla Tormentilla. | Pteris Aquilina. |
| Oxalis Acetosella. | Athyrium Filix-fœmina. |
| Epilobium palustre. | Lastrea dilatata. |
| Digitalis purpurea. | L. montana. |
| Scabiosa succisa. | Blechnum Spicant. |
| Solidago Virgaurea. | Sphagnum spp. |
| Galium saxatile. | Polytrichum spp. |

As mentioned before, trees must have covered a wider area in this district in former times, remains of Scots Pine and of Birch being found embedded in peat at 1250 and 1700 feet, respectively.

NOTES ON THE MAP.

As mentioned above, the detailed observations made in actually carrying on this ecological survey were sketched in the field on the Ordnance Survey maps on the scale of six inches to the mile. The accompanying map is a composite one, consisting of portions of Sheets 111, 112, 120, and 121 of the one-inch to the mile Ordnance map. The boundaries of our associations were reduced from the six-inch scale to the one-inch, and drawn on the composite map, and were subsequently coloured. The index of colours in the margin of the map will supply the information necessary for the recognition of the various associations.

Much of the low-lying land in our area is drift-covered, but we have inserted in the form of dotted lines the boundaries of the geological formations obtained from the "solid" geology maps of the Geological Survey, the names of these being inserted on the map in capital letters.

In selecting colours for differentiating the associations, we have endeavoured, as far as possible, to represent the higher associations by somewhat darker tints, so that, *on the whole*, decrease in depth of tone, of whatever colour, represents decrease in altitude, and *vice versa*. The colour of the woods, however, and of Kippure does not fall in with this scheme. The colours were also selected, as far as possible, with a view to their easy differentiation by artificial light as well as by daylight. A considerable amount of detail which could be put on the six-inch map has necessarily been omitted on reduction. This applies with considerable force to the use of letters. On the six-inch maps we are able in most cases to trace the gradual passage of one association into another, and to indicate the phases of transition by suitable lettering at the overlaps. We had hoped to be able to do this on the present map; but on reduction it was found to be not feasible, as the attempt to insert too much detail tends to obscure the usefulness of the map as a broad general survey.

Taking a broad view of the map as a whole, the distinction between the green land of the great central plain of Ireland to the north and the variously-coloured mountain land of the south is sufficiently conspicuous. The following notes will help to elucidate the map by describing the general features and vegetation of a few of the more prominent and remarkable areas.

The Two-rock Mountain group.

This group of hills, including Two-rock, Three-rock, Tibbradden, and Kilmasnogue, and rising to 1699 feet in Two-rock, is characterized by a general absence of peat of any depth; and, in consequence, an absence of the *Scirpus* association and other wet-vegetation types of the high moors. Here, on the other hand, the *Ulex Gallii* association attains a large development, forming in places a fringe of great breadth and considerable altitudinal range. This gives way at length to a poor *Calluna* association. Thus, on the Three-rock Mountain, at 1300 feet, a rather abrupt change is noticeable from a friable earthy soil covered with a grassy sward dotted with rounded bushes *U. Gallii*, among which *Calluna*, *Brica cinerea*, and *Agrostis vulgaris* flourish,

to a thin, wet, peaty soil, under a brown, level sheet of vegetation in which *Calluna* is dominant, low *U. Gallii*, *Erica cinerea*, and *Nardus* abundant, with wet tracts inhabited by *Juncus squarrosus*, *Scirpus cæspitosus*, and *Sphagnum*.

Glencree.

The valley is generally devoid of drift, save for mounds and terraces along the course of the stream. There is only a thin, peaty, or friable soil, strewn with rounded granite boulders. There is no subsoil drainage, and the springs form numerous wet lines which trend towards the river. On the lower part of the slopes *Ulex Gallii* is often predominant, or at least the *Gallii* type of vegetation. *U. europæus* occurs in considerable patches, lines the fences, and generally tends to replace *U. Gallii* as one descends towards the valley bottom. The same may be said of *Pteris*. The wet parts are rushy. Certain dry knolls, as well as certain wet areas, are occupied by stunted *Calluna*. Willows (*S. cinerea* and *S. aurita*) colonize certain wet parts, and along the streamlets are bunches of native trees—*Betula*, *Ilex*, *Salix*, *Corylus*, *Alnus*, *Quercus*, *Pyrus Aucuparia*, *Prunus spinosa*, *Cratægus*; the same species form thin scattered scrub and individual trees over the greater part of the valley. Here and there *Nardus* becomes conspicuous. The vicinity of the river is dry and sandy, with a strip of fine *Ulex europæus* and *Pteris* where not cultivated.

The whole valley is a jumble of associations. This is the result of the absence of drift, which makes the moisture factor extremely variable, the ground changing from wet to dry every few yards.

Kippure.

This massive hill, with broad, gradual slopes on all sides, is covered with a thick peat-cap (6 to 10 feet), except on the very summit, where weather is denuding it, exposing a large, stony tract, interspersed with high, heather-crowned islands of peat. Considering the slight slopes and thick peat, one might expect to find the hill in possession of the characteristic *Scirpus-Calluna* association of the high grounds, which is so extensively developed around the base of the hill at the head of Glenasmole. Nevertheless, *Calluna* is the dominant plant, and a dry, mossy sward the prevailing type of vegetation. The explanation is to be found in the numerous underground streamlets which tunnel through the peat at its base, and drain the overlying bog. Between these channels large patches of "SC" are sometimes to be found, and

occasionally *Eriophorum* becomes abundant; but the great bulk of the ground above 1750 feet is in possession of a short, dense *Calluna* association, of which the following sample will illustrate the whole:—

STATION 68. KIPPURE, EAST SLOPE. 2250 feet. 3. 10. '03.

Dry slope of short but luxuriant *Calluna*, with occasional bosses of *Racomitrium*.

| | |
|-----------------------------------|-------------------------------|
| <i>CALLUNA</i> VULGARIS, C. | <i>Juncus squarrosus</i> . |
| <i>Vaccinium Myrtillus</i> , f. | <i>Lastrea dilatata</i> . |
| <i>Empetrum nigrum</i> , f. | <i>Melampyrum pratense</i> . |
| <i>Eriophorum angustifolium</i> . | <i>Luzula maxima</i> . |
| <i>E. vaginatum</i> . | <i>Scirpus cæspitosus</i> . |
| <i>Racomitrium lanuginosum</i> . | <i>Cladonia rangiferina</i> . |

In conclusion, we beg to return thanks to the Royal Society of London, and to the Royal Irish Academy, for grants towards the purchase of the necessary field-maps and other incidental expenses connected with our survey.

DESCRIPTION OF PLATES.

PLATE VII.

View looking north-west, from below the Military Road, at about 1000 feet.

The distant hills are those of the ridge composed chiefly of basaltic andesites, running in a north-westerly direction from Kippure to Ballynascorney. The vegetation is too indistinct to be recognizable. In the valley is seen one of the artificial lakes forming the Rathmines water-supply reservoirs. The hill on the right, in the middle distance, is Piperstown Hill (1291 feet). Its summit is clothed with a dense cap of pure though somewhat dwarf *Calluna* (C.). Below this, and extending down to the road on the left, and to the immediate foreground, is *Ulex Gallii* ground (G.). The boulders are granite. Below the road, on the left, is farm-land (A.) on drift.

PLATE VIII.

Typical *Ulex Gallii* ground, on the west slopes of Two-rock Mountain, looking up Glencullen. The soil is a thin, peaty one, on granite. The tops of the distant hills (granite) are heather-clad (*Calluna*).

PLATE IX.

Source of the Glendhu stream (1800 feet). Showing a large stretch of *Scirpus* bog (SC.) in which is a considerable admixture of *Eriophorum angustifolium*. Along the drainage channels in the middle foreground, and on the steeper hill-side in the left-hand top corner, is *Calluna* moor (C.).

PLATE X.

A *Racomitrium* moor on Glendhu Mountain (1900 feet), looking eastwards. The general mass of vegetation is *Calluna*, with a good deal of *Scirpus cæspitosus*, and some cotton-grass (CS.). The *Racomitrium* masses (R.) growing on the western exposed faces of the peat islands and peninsulas are a conspicuous feature.

PLATE XI.

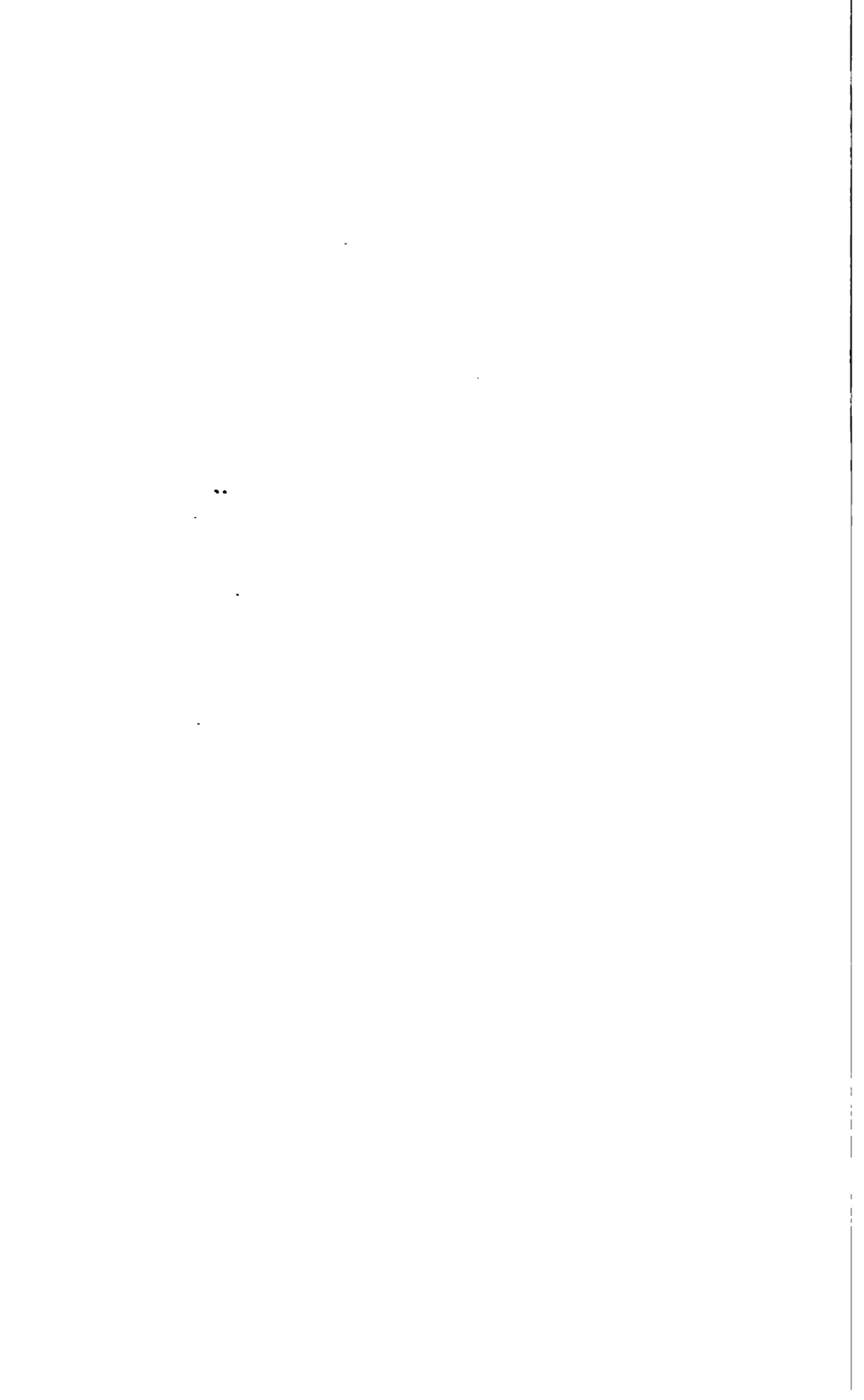
Fig. 1.—Thorn-tree (*Crataegus*) on the slope of Tibbradden Mountain, about 800 feet elevation. The slope is towards the north-west. The growth of the tree is greatest towards the north-east, in which direction the sea lies. It is the west and south-west winds from the Central Plain that here impede vegetation. On the easterly slopes of the hill no such marked effect is seen as a result of winds from the sea.

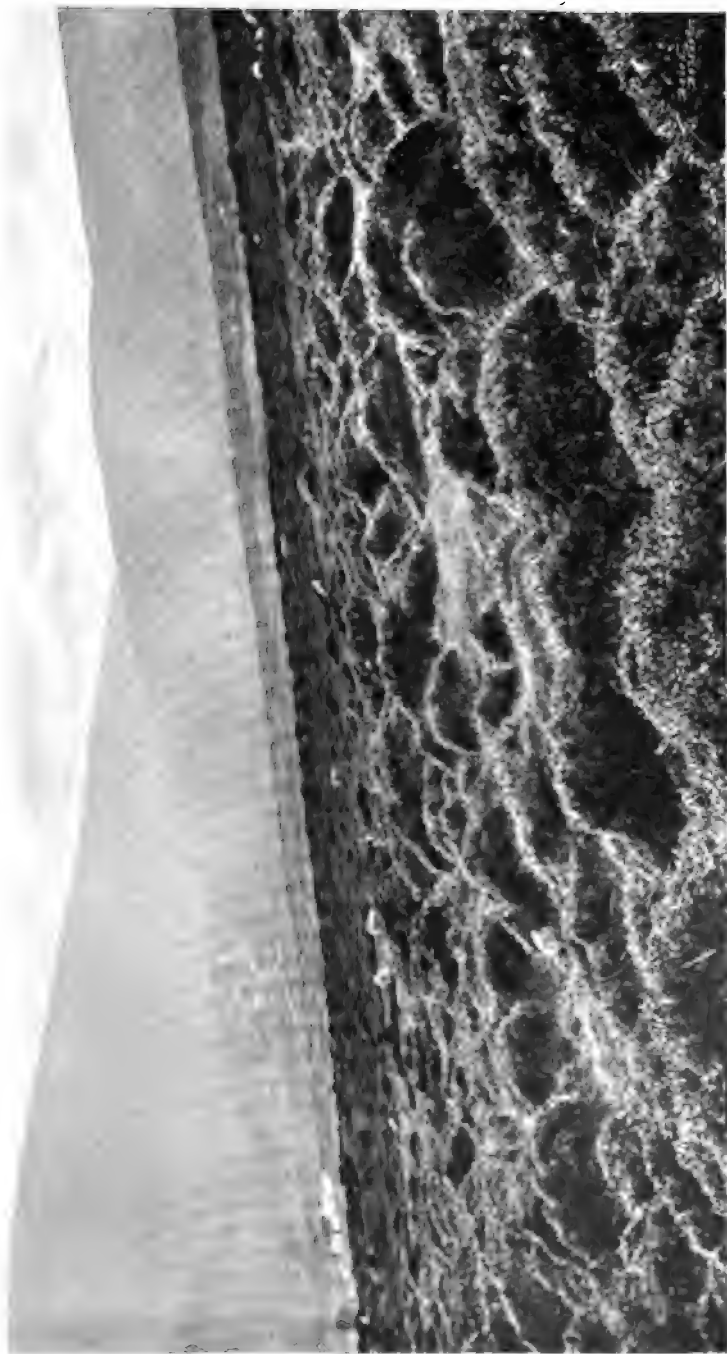
Fig. 2.—Denuded peat, at 1500–1700 feet, on the northern slope of Glencullen Mountain. Large areas have been cleared of peat by the wind and rain to a depth of 4 to 8 feet, forming barren wastes of bare peat, or exposing the old floor of weathered granite. In places stools of peat, crowned with *Calluna*, standing up, show the amount of the denudation.



Piperstown Hill, showing, in ascending order, farm-land, *Ulex Gallii* association, and *Calluna* association.

R. Welch, Photo





In Glencullen, showing typical *Ulex Gallii* ground.

R. Welch, Photo.



Scirpus moor, Glendhu Mountain, with *Calluna* occupying the better drained portions.

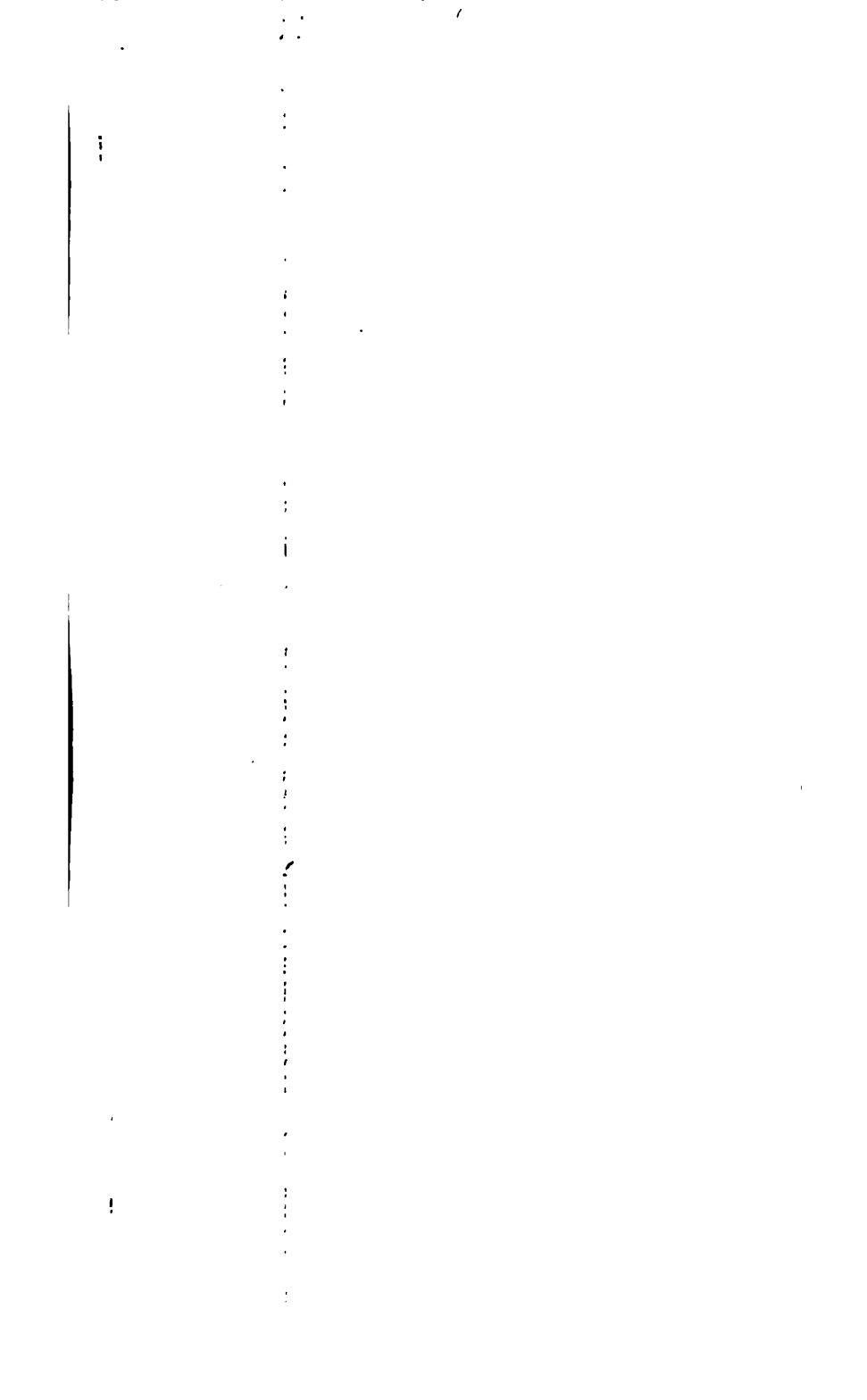
R. Welch, Photo.



Racomitrium moor, on Glendhu Mountain, looking eastward.

R. Welch, Photo.





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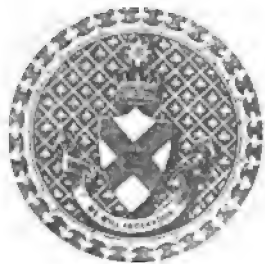
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PROCEEDINGS
OF THE
ROYAL IRISH ACADEMY

VOLUME XXV

**SECTION C.—ARCHÆOLOGY, LINGUISTIC, AND
LITERATURE**



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ERRATA.

SECTION C.

Page 123, line 13, for "Matthew" read "Mathew".

„ 134, lines 8, 9, for "Book of Common Prayer" read "New Testament".

„ 209, last line, for "étan" read "étant".

„ 208, line 7, for "postan nos" read "post annos".

„ 299, „ 1, for "Omnes" read "Toties".

„ 335, „ 6, for "400" read "450".

„ 349, „ 20, for "Thomas Lord Carrick" read "Theobald le Botiller, Lord of Carrick".

„ 351, „ 4, before "the" read "the Abbot of Oroney held".

„ 377, „ 12, for "are" read "was".

„ 389, note 2, for "XIII." read "XI."

„ 411, line 2, transfer from "Fabric" to end of paragraph, to section 197 below.

„ 415, last line, for "Bartholomew" read "Borthanus"

„ 436, line 9, for "Sym" read "Lym"—i.e. Limerick.

„ 437, note 2, for "Ballynety" read "Ballynely", and for "eight" read "nine".

„ 438, lines 5, 6, for "Tower Hill" read "Cappanouk".

„ „ line 10, for "Colman" read "Coeman".

„ 439, „ 13, omit "and Wilde Chapel".

„ 442, „ 20, for "Braynof" read "Braynog".

„ „ 22, for "Obroggy" read "Coggran".

„ 452, „ 1, for "Calman" read "Coeman".

„ 458, „ 22, for "XII." read "X."

May, 1904

(C. III. 3)

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ROYAL IRISH ACADEMY

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ARCHÆOLOGY, LINGUISTIC, AND LITERATURE

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PROCEEDINGS

OF

THE ROYAL IRISH ACADEMY

PAPERS READ BEFORE THE ACADEMY

I.

ON THE "KERRY STRAW CLOAK EXHIBIT": ITS PROBABLE LUSITANIAN OR GALICIAN ORIGIN, AND ITS BEARING ON THE QUESTION OF FORMER RELATIONS BETWEEN IRELAND AND NORTH-WESTERN SPAIN.

By JOSEPH P. O'REILLY, C.E.

Read NOVEMBER 30, 1903. Published FEBRUARY 4, 1904.

ABOUT the commencement of the past year (1903) there was placed on view in the Gallery of the Museum of Science and Art of Dublin, a "Dress worn for dance, in traditional ceremony, County Kerry," lent by C. R. Browne, Esq., M.D. (fig. 1, p. 2).

This very briefly worded label does not call attention to the material of this dress, which is of straw, nor does it furnish any details relative thereto. These will probably appear in Dr. Browne's Report on the Ethnography of the County Kerry.

It may seem exaggeration to say, that no more important or interesting ethnographical specimen has been exhibited in the Museum than this straw dress or cloak, particularly from the historical point of view, since with the County Kerry are connected so many Spanish and Iberian traditions, both as regards the origin of the race which inhabits it, the manners and customs of the people, and the monuments that are peculiar to the country; so that to fully understand them, as regards their origins and significances, one should have studied not only all the references to Spain contained in our Irish mss., but also the ethnography of the western and north-western parts of the Spanish Peninsula, and become familiar with such works as de Cartaillac's

Archæological Work on Spain and Portugal. Having already in certain papers submitted to, and published by, the Royal Irish Academy, endeavoured to bring into prominence facts indicative of relations having been had in ancient times by the Spanish or Iberian

peoples with this country, and having, moreover, read some of the many works of travel descriptive of Spain and Portugal, I was led to attribute to this Straw Cloak, when first I heard of it, a Spanish origin, and in so far to look on it as a strong material proof of the existence of the relations referred to, and which may be found detailed in the Histories of O'Flaherty, Keating, and O'Hallaran; as also in the Irish song to which allusion is made. Without, however, giving all the statements of these authors, it will be sufficient for the purpose of the present paper to briefly call attention to the statements contained in the article on "Kerry," in Lewis' "Topographical Dictionary," as also to those given in Charles Smith's "History of the County Kerry" (1755). In both of these works extracts are given and references are made to the data to be found in Ptolemy, Strabo, and Pomponius Mela, as to the Spanish tribes which emigrated to and settled in the southern, south-western, and western parts of Ireland, and to the evidences of these migrations shown by the physical characteristics of the people, the Spanish names of many places, and more particularly to the noted and continued frequentation of these parts of Ireland for fishing purposes by Spanish and Portuguese fishing fleets. Certain customs are also referred to, such as the



FIG. 1.
"Straw Cloak," on Exhibition in
the Museum of Science and Art,
Kildare-street, Dublin.

use of the "Loy" in the cultivation of the mountainous parts of Kerry, corresponding to that of the "Laya" in the northern provinces of Spain (see Townsend's "Travels in Spain," vol. iii.), the character of the breed of swine in Kerry, corresponding to that of the Spanish

breeds of Estremadura (see Ford's "Gatherings from Spain," pp. 126-7, and Hans Gadow's "In Northern Spain," 1897, p. 260). Lastly, the peculiarities of the Kerry ponies mentioned by Smith, and their name of "Asturcones," mentioned by Ware.

Camden gives particulars as to the frequentation of the coasts yearly by Portuguese and Spaniards, in the middle of winter, for the cod fishery, and shows the importance of the trade in dried cod (Bacalão) with Spain and Portugal, as also that of cured salmon, herrings, pilchards, &c. To the data furnished by these writers the following citations may be added by way of commentary and elucidation:—As regards the early intercourse between the two countries, sufficient account is not taken of what is known of the Atlantes, the Berbers, the Turdetani, the Lusitanians, and Celtiberians, and their intercourse within the Strait and without it, particularly the early navigations of the great maritime peoples of the *Ægean* coasts and islands, such as the Pelasgians, Phœnicians, Rhodians, Carians, Cretans, &c., not only to the western limit of the Mediterranean, but outside it. Account has to be taken of the early prevalence of piracy and the stimulus to exploration and distant expeditions given by the combined influences of trade and piracy. The tendency of the great fishing fleets of the Mediterranean was to follow the shoals and large fish northwards outside the Straits, and thus to become acquainted with the resources presented by the western and north-western coasts of the Peninsula, and to continue thence northwards during the favourable seasons and fishings. These coasts not only presented splendid harbours and abundant fishing-grounds, but also excellent shipbuilding materials of all sorts, and excellent zinc ores, necessary for the preparation of brass, and therefore important as objects of traffic. For these reasons, the coast populations of the Cantabrian seaboard were, from the earliest times, celebrated as skilled and daring sailors (see Colmenar, "Délices de l'Espagne et du Portugal": Leyde, 1725, vol. i., p. 75). This skill and daring was probably mainly due to their early training in whale fishery, since they not only pursued the whales in the Bay of Biscay, but followed them up to the coasts of Ireland; and it is even pretended that they extended their voyages to the banks of Newfoundland, one hundred years before the voyage of Columbus (see E. Wakefield's "Account of Ireland," 1812, p. 72). Colmenar makes mention of two or three seaports, formerly known as having been engaged in the whale fishery. In Ree's "Cyclopædia" (1819), under the heading of "Cod Fishery," excellent details are given as to this and other points concerning the cod fishery. It is stated that, "The Irish

our fisheries are chiefly cod, ling, hake, coal-fish, and haddock. In these fisheries the Irish are very expert, being trained to the business by their fishing on the banks of Newfoundland, as well as in the bays of that Island, to which fisheries some thousands of Irishmen resort every season, and from which they return with a small pittance to their families." To them, as catchers and curers of cod-fish, may be due the name *Bacallá*, used for dried cod-fish and ling all over the Peninsula to this day. It is probable that the Irish fishermen became acquainted with these fisheries through the Spainards and Portuguese who frequented their coasts and employed them as parts of their fishing crews.

The use of salt as a condiment, and for purposes of preserving or curing meat, is of extreme antiquity; and undoubtedly one of the chief sources of supply for Ireland was the southern and western coast of Spain and Lusitania, the reputation of the salt from which has always stood very high in Ireland. Cadiz was in all probability one of the very earliest centres of the trade, and one of the earliest ports to become acquainted with Ireland and its inhabitants. This early frequentation of Ireland by the Iberians is all the more probable when account is taken of the *estimated population* of the Peninsula about the time of the *Roman Invasion*, when it is said to have been between *fifty and sixty millions of inhabitants*, from the mass of whom expeditions must have proceeded in search of new lands and colonies (see Dalrymple's "Travels in Spain and Portugal": London, 1777, p. 52). It should also be borne in mind that the conditions of navigation between the countries are not difficult, and are, during certain seasons, favoured by the westerly and south-westerly winds that prevail during the winter months more particularly. To these general considerations may be added the following citations from works of travel and history, bearing on the community or resemblance, of customs or terms, between certain of the Spanish or Portuguese people and the Irish of the South, and which may help to enforce the point sought to be established in this paper.

The district of the Peninsula to be considered is, roughly, that which constituted the ancient Gallæcia, as stated in Smith's "Dictionary of Greek and Roman Geography," that is, the present province of Galicia, with a certain portion of the neighbouring Asturias, and the northern provinces of Portugal, viz.: Entre Douro and Minho, and Tras os Montes, and also a small portion of Leon. The people of these provinces have very close affinities as regards race, language, and customs; and from these points of view may be considered as one

and the same people, descended from a Celtic stock, and distinguished by many Celtic characteristics. Thus, in Colmenar's work, already cited, in describing the Celtiberians of the north and north-western parts, he says (vol. i., p. 40) that their ordinary drink was a species of beer, made from wheat, to which was added honey, and which they called *Courmi*. "This drink possessed the property of keeping a long time." In O'Curry's "Lectures," introduction, p. cccxxxii, it is stated that the chief intoxicating drink of the ancient Irish was beer, which was called in old Irish *Cuirm* (gen. *Chorma*); and a citation supporting this statement is given. The ancient Greek name is given, and it is mentioned that Dioscorides has the form *κοῦρμι*; that is the very term mentioned by Colmenar.

Colmenar (vol. i., p. 53) cites the fame of the Spanish horses among the ancients, and the small breed of the North so adapted for travelling, and characterised by its "ambling" gait. They were called "*Asturcons*," because they came principally from the Asturias. This same statement is reproduced by Smith as regards the Kerry ponies. Colmenar, in speaking of the Biscayans (vol. i., p. 104), says that they were celebrated as most skilled in navigation, more so than any other people of Spain, and had long enjoyed that reputation. "History tells us," he says, "that 200 years before Christ they traversed the ocean in barks, made from the trunks of trees, hollowed out, and covered with hides, and that with a fleet thus formed they went to Hibernia (at present Ireland), and occupied it (*s'en saisirent*)." In the work by Joaquin Costa, "*Introduccion á un tratado de politica*," Madrid, 1881, chap. xxiv., p. 405, "*Poesia-epico-heroica*," he refers to the long and fierce wars for independence carried on from the third to the first century B.C., their influence on the national poetry of that time, and points out the subjects which must have inspired them, such as the deeds of the Turdetani, celebrated by Asclepiades as the most learned of the Spanish people, having their laws in verse, and dating back 6000 years (ap. Strabon III. iii. 6). "Even before these had they recounted the ancient expeditions of the Tartessian Iberians for the conquest of Corsica and Sardinia, and of the Galicians for the conquest of Ireland, the victories of Argontorio over the Phœnicians of Cadiz, and other such adventures." Describing Galicia, he (Colmenar) cites its many cities and splendid ports, more particularly Ferrol and La Corugna. Speaking of this, he refers to the famous tower or lighthouse "made in order to discover the vessels passing on the distant horizon."

p. 126, he says:—"The good people of the country believe that it was built by Hercules, who placed in it a mirror made by art of

necromancer, and having the wonderful virtue of showing all the vessels that might be passing that way, no matter how distant."

In O'Mahony's translation of Keating's "*History of Ireland*" (New York, 1857), is given the narrative of the invasion of Ireland by the Milesians from the north of Spain, and Keating's opinion that the expedition set out from the Tower of Bréogan, in Galicia, and "that it was there that Lugaidh, the son of Ith, landed when he returned from Ireland with his father's dead body."

In the "*Historia de Galicia*," by Manuel Murguía (2nd edition, tome I., Coruña, 1901), the author cites and comments on this tradition "that it was from the Tower of Bréogan that the Milesian leader discerned afar off, one fine morning in winter, the land of Ireland, like a cloud floating on the horizon" (in the *Leabhar Gabala*), "Not otherwise do the children of the ancient Brigantia narrate, saying that the coasts of England may be seen from the lofty tower; and we ourselves remember how on clear and tranquil mornings, in the days of our childhood, we felt an intense desire to mount the tower, and see if we could not discern afar off the green Isles, which our youthful imagination caused us to see, rising, as it were, on the horizon, like some beautiful white sail crossing these solitary seas."

p. 506 (note).—"This tradition is very ancient. Ethicus, a geographer of the fourth century, seems to speak under its influence, when describing the Brigantine lighthouse, saying 'that it looks towards Ireland'; and, in describing this, he says, 'Its most prominent part advances into the ocean of Cantabria, and looks from a distance towards Brigantia, a city of Galicia that points in the direction of the northerly winds that blow towards Africa.'"

In Major Dalrymple's "*Travels in Spain and Portugal in 1777*," p. 88, he says: "I found here (on the borders of Galicia) a great change in the language. I could hardly understand the lower class of people, their dialect was so corrupt."

p. 90.—"On the road from Astorga to Coruña the houses were of stone and thatched. I observed in this district that the people threshed out the corn with a flail, as in England, and I noticed also that it was stacked here."

These citations are given in order to show how markedly Galicia is separated from the other provinces of Spain by its position, its more humid and even moist climate, the difference of race, and consequent differences of manners and customs. Thus, as regards the use of thatch, it is peculiar to Galicia, in the Peninsula, and was so before

the time of the Romans. The round or circular thatched cottage of the Galician Celt shown on the column of Trajan prevailed in that province down to quite modern times; and Murguia describes it, and gives a woodcut representing the hamlet of "Las Portillas" (on the high road from Orense to Castille), which contained, down to relatively recent times, round and low cottages covered with thatch.

p. 90.—"In one of the villages I observed a number of women, decked out in all their ornaments, sitting under a tree, whilst the young fellows were dancing before them to the pleasant and melodious notes of a bagpipe (instrument characteristic of the Celtic races), accompanied by castañets which they held in their hands, and little bells that were fastened to their legs—not the least trace of the Andalusian, the Manchuan, or Castillian Spaniard, except language, and that much vitiated."

p. 91.—"At Fuen Cevadon, taking notice of a prodigious heap of loose stones, with a wooden cross on the top of them, my fellow-travellers told me that each '*Gallego*' returning to his own country makes it a rule to throw a stone on this pile; thus by accumulation it has formed a considerable mound."

p. 94.—"Passed the village of Campo de Narraya, when we came into a hilly country, the lands enclosed; the women wore handkerchiefs round their heads as in Ireland; passed a great many villages wherein I noticed that the houses were substantially built of stone and strongly thatched, which becomes necessary, as the rain, I suppose in winter, must pour down in great torrents; saw abundance of hogs and a great many chestnut trees."

p. 97.—"Betanzos; market day; many people assembled from the country. The women had much better countenances than in other parts of the kingdom, fresh countenances with fine black eyes and hair; they wore not shoes or stockings."

p. 105.—"This province (Galicia) is famous for small but strong breed of horses, which are very cheap."

p. 123.—"Braga. This day there was a fair here, at which there was a great deal of coarse linen, cloth, some small cattle, crockery ware, and wooden shoes called '*galloches*'" (Littré gives as etymology: "Español, '*gallocha*.' On le tire du Latin '*Gallicæ*,' sorte de chaussure gauloise.")

p. 128.—"All through this country from Valença there is a kind of carriage, like the Irish car, drawn by oxen, yoked to the neck. The wheels are never greased, on purpose, as they told me, that they might give notice to one another in the narrow roads which prevail all through the northern part of the country."

The following extracts are from Kinsey's (Rev. Wm. M.) "Portugal Illustrated," 8vo, 1828:—

p. 16.—"The history of Portugal may be said to be that of the commerce of European states, if not of the civilization of Europe generally."

p. 29.—"The provinces of *Tras os Montes* and *Minho*, situated in the south of *Galicie*, justly termed the '*Medulla Hispanica*,' being at this day (1828) one of the most beautiful, the most populous, fertile, and wealthy districts in the world."

p. 235.—"While the men carry their coats on the '*cajado*,' a long pole, seven or eight feet long, and having the large knob at its extremity frequently loaded with lead, a formidable weapon used with equal address against, dog, wolf, or robber."

p. 248.—"Numerous rivers, some of which produce the only salmon to be had in Portugal, and which is sent even as far as *Madrid*."

p. 270.—"Inviting one from the fair throng to figure off with him to the monotonous notes of the bagpipe, played by a Spaniard, the only wandering musicians allowed in Portugal being natives of Spain, whose appearance altogether was as rough and uncouth as the notes of his instrument were sorry and unharmonious." (Compare with Hans Gadow's "In the North of Spain," pp. 143, 176, 200.)

p. 337.—"In many instances we have seen these watchmen (in the vineyards of the *Douro*), like the shepherds and the labouring



FIG. 2.

Peasant wearing Straw Cloak. From Kinsey's "Portugal Illustrated," Pl. ix.

peasantry of the northern part of the provinces, protected against the rain and changes of the atmosphere by a dress or outward covering composed of straw, which is closely twisted together, and is sufficiently large to conceal the whole person (fig. 2). In this sort of peripatetic thatch the guardian of the vineyard defies the effect of the weather; and during the important part of the season remains nearly night and day in the open air with his musket prepared to resist any invasion of his property."

p. 402.—"*Figuerra da Foz*. The boats on this part of the coast are so beautifully carved at either extremity, like an Indian proa, to enable them to cut their way through the violent surfs occasioned by the heavy westerly winds which generally commence in the latter end of October or beginning of November, and prevail through the winter along the whole coast of Portugal." (This citation is given to show how favourable this prevailing wind is for the run to Ireland or the run back.)

p. 481.—"About three leagues from Evora, near Arrayolos, there is a cromleach."

p. 495.—(*Tailpiece*), sketch of this cromleach.

The following citations are from "Travels in Portugal," by John Latouche (Oswald Crawford), 1875, and refer to the parts of Portugal already referred to as being comprehended in the Ancient Galicia and past Roman times, down to the twelfth century, that is, the more distinctly Celtic part of the Peninsula.

pp. 73 to 80.—The author describes an excursion to the "Gaviarra," one of the loftiest mountains in Portugal, the height of which is nearly 8000 feet; and he depicts the magnificent view of the country to be seen therefrom, embracing the range of the Gerez Mountains, the hilly provinces of *Tras os Montes*, and the country of *Beira*. To the north-east the eye ranges across the Spanish frontier towards the *Asturias*, in the direction of *Astorga* and *Leon*. This he describes as the cradle of the Portuguese nation, which is an off-set of the vigorous race which in the eighth, ninth, and tenth centuries inhabited the great basin and water-shed of the *Douro*, from the heights of the *Asturias* of *Leon* and of old *Castille*, as far as the mountainous ranges of *Beira* and *Tras os Montes*, "the race of men who in the *Asturias* preserved some sort of independence when the rest of the Peninsula was over-run by Arabs."

p. 83.—He gives a highly appreciative description of this race as regards energy, courage, and spirit of adventure. He then describes his passage into the valley of the *Douro*, and continues.

p. 132.—“From Amarante over a barren country to the solitary wayside inn at Casaes.”

p. 133.—“There was a fair or market going on somewhere on the road, and I overtook several parties of sturdy farmers on horseback. Many of them carried long ox-goads in their hands; and as the day was raining, they wore the curious waterproof cloak made of rushes, which is peculiar to the province of the Minho, a waterproof which has many advantages over the very best Mackintosh coat, being, in the first place, much lighter; in the second place, it does not make the wearer hot, or give him a headache, nor smell of tar; in the third place, a good coat costs less than a shilling. Its appearance is, however, rather against it, and the wearer looks exactly as if he was thatched with straw from head to foot. These *palhoças* are extremely used by all conditions of persons, and enable labouring men to do field-work on the rainiest days when the water descends in tropical torrents, and when without some such protection no out-of-door labour could be done. Like many other customs and institutions in this province, where the Roman colonists have left such numerous traces of their presence, the *palhoça* may, perhaps, be an inheritance from the Roman times, and may be representative of the *Toga viminalis* of the Romans, ‘the Toga made of Twigs.’ It is difficult to look at these homely-looking men, with their singular thatch upon them, bestriding their miserable ponies, and to believe that both men and ponies are lineal descendants of the cavaliers and war-horses who rode down the Saracens at Ourique, and the Spaniards on the field of Aljubarrota. Yet neither men nor ponies can be much changed since those days. The ponies have probably degenerated and dwindled to some extent, but I see no reason why the men should have done so at all.”

The following citation is from a French author, “Andalousie et Portugal” (Paris: Calmaan Levy, 1885):—

p. 410.—“Coimbre; Les femmes de village, leurs paniers plats suspendus aux épaules, bien campées, grandes, pied leste, la vraie race Portugaise (celle que n’altèrent jamais d’impures mélanges avec le sang nègre) arrivent au marché. Elles ont la taille souple, des visages rians; un court jupon badine sur la jambe nue, le manteau bleu voltige sur leurs pas, tandis que le ‘Camponio,’ un gaillard solide, marche à côté de son magnifique attelage de bœufs noirs. Comme le ciel menace, qu’en cette zone, où les brumes del Océan rencontrent la chaleur des tropiques, une averse est une trombe, les “Camponios” s’enfouissent sous la ‘Capa’ de joncs desséchés, espèce de meule

ambulante qui les transforme en Patagons. Les nuages peuvent crever, se verser des cataractes, pas une goutte d'eau n'atteindra le 'Camponio.' Cette meule là qui coute 3 francs (au 'forasteiro') ne pèse guère plus qu'un fœtu. Elle n'est ni sans noblesse ni sans beauté. Lorsqu'on voit s'avancer d'un pas majestueux, sa figure brune à demi-cachée sous le feutre noir, ce paysan roi de la campagne grandi de toute la raideur de sa toge monumentale, je ne sais quelles visions de races primitives passent devant les yeux."

From these three last citations it may be concluded that the cloak in question is usually made of *straw*, as indicated by the name "Palhoça"; that it is peculiar to the northern provinces of Portugal, Minho, and Tras os Montes (formerly part of Galicia); and lastly, that it is more generally in use among the farming and labouring classes. It is worth noting that Vieyra's Portuguese Dictionary gives "Palhaço," as a "clown in a playhouse." Might it not be inferred that the "Palhaço" would sometimes use the "Palhoça" in some dance or mummer?

That some such garment as a straw cloak was in use in Ireland in the sixteenth century may be deduced from the statement made by Campion in his "Historie of Ireland" (Ancient Irish Histories, 1809).

p. 27.—"There is among them a brotherhood of 'Carrowes,' that profess to play at cards all the yeare long, and make it their only occupation. They play away mantle and all to the bare skin, and then truss themselves in straw or in leaves; they waite for passengers in the highway, invite them to a game upon the greene, &c."

Colmenar, in describing the Celtiberians, mentioned the use among them of the "épieu," or boar-spear, as characteristic of the race; and a citation has already been given from Kinsey (p. 285) as to the use among the Portuguese and the Galicians of the "cajado," or great staff, loaded at one end. Latouche, in his description of the farmers whom he met wearing straw cloaks, says that many of them carried large ox-goads in their hands, evidently as an arm of defence, since they were on horseback, and were not seemingly driving oxen. This same author, writing as "Oswald Crawford," published in 1880 another work entitled, "Customs of the Portuguese People," in which occurs the following passage bearing on this point of the use of the ox-goad by the Portuguese peasants:—

p. 365.—"When the Portuguese workman or day labourer has done his long day's work, he does not lean against a post and smoke a pipe; he does not favour any such 'contemplative man's recreation,' nor

does he linger in the wine-shop ; but if it be a holiday or a Sunday, and in a rural district, he puts on a clean shirt, with a large gold or silver stud, as a neck-fastening, and his newest hat, varying in shape according to the locality, but always of black felt, and of a kind which we see in pictures of Spanish life. He throws over his shoulders a black cloth cloak, with a real gold or silver clasp. He takes his favourite ox-goad in his hand, as tall as himself, straight as an arrow, well rounded and polished, and bonnd with brass. He slings his guitar round his neck, and makes his way to the nearest fashionable threshing-floor, or peasant's drawingroom. Here are gathered old and young of both sexes, come hither for gossip, song, or dance." The ox-goad is in general use all over the Peninsula, wherever oxen are used for draught, more or less varied in weight or length, but always bearing at the end a short iron or steel point. In the northern provinces and in Portugal a sort of quarterstaff is used. Thus, in the Earl of Carnarvon's "Portugal and Galicia" (1861), he states, p. 35 (neighbourhood of Coimbre), "They also carry the *Pao*, or long pole, as in the neighbourhood of Lisbon." *Pao* is the Portuguese or Galician pronunciation of *Palo*, the term employed in Asturias, and really represents the Asturian pronunciation of the Latin *Palum*, that is with the "o" very long and full, and the "m" quite mute and barely audible. But this quarterstaff is also found among the Berbers, as appears from the following citation from Cunningham Graham's "Magreb-el-aska, a Journey in Morocco" (1898), p. 214. Describing a Berber "runner" or "recass," he says, "And in his hand he carried a stout quarterstaff, full five feet long, with which all 'recasses' used to walk, try the depth of water in crossing streams, defend themselves, and ease their backs by passing it behind them, through their two arms, and resting on it as they trot along." Of this people it is stated in the excellent article concerning them in Vivian de St. Martin's "Dictionnaire de Géographie Universelle": "Les Berbers de l'Atlas sont physiquement de véritables Européens : ils sont aussi blancs que les Français du Nord. Beaucoup de Kabyles, dit Mr. Shaler, qui ont le teint clair and les cheveux blonds, rappellent plutôt des paysans du Nord de l'Europe, que des habitants de l'Afrique." This race is said to have at one time extended along the west coast of the Peninsula as far north as Galicia. Hence, it may be inferred that the use of this weapon, whether in the form of a boar-spear (*épieu*), or of a quarterstaff, or in that of an ox-goad, may be considered as extremely ancient, and that the straw cloak of the Minho and Tras os Montes provinces carried by the farmers, and used by the labourers, is of

equal antiquity, and that it most probably goes back to pre-Roman times. In this respect it is interesting to call attention to the term "*colgado*" employed by Kinsey at p. 235 of his work already cited, as applied to the long pole or staff on which articles were being carried by the bearer. It may possibly be the slightly altered form of the Celtic words *cuaille-gath* or "spear-handle"; and if this be accepted, it would so far furnish another argument in favour of the antiquity of the "ox-goad" and of the "straw cloak" in question.

II.

ON THE EXCAVATION OF A TUMULUS NEAR LOUGHREA,
CO. GALWAY.

By GEORGE COFFEY, M.R.I.A.

Read JANUARY 11. Ordered for publication JANUARY 13. Published
FEBRUARY 5, 1904.

IN October, 1903, I obtained permission to open a small tumulus near Loughrea, Co. Galway. It is situated on the townland of Farta, about half a mile to the west of Turce House: Ordnance map, 6 inch, sheet 97. The Rev. J. O'Donovan, Adm., Loughrea, procured the consent of Colonel Daly, the owner of the land, and most kindly provided the labourers for the work.

The mound measured 40 feet in diameter, and 9 feet in height. Digging was begun at the east side, and continued inwards till the centre was reached. In construction the tumulus consisted of stones

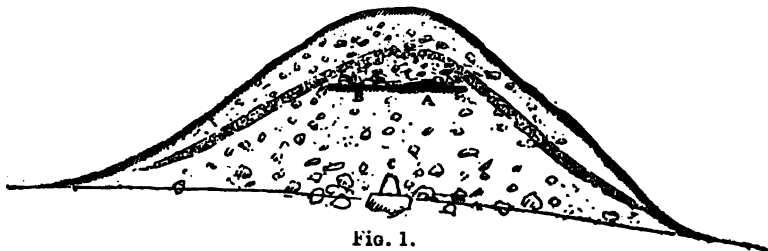


Fig. 1.

and clay, with a sandy band of about eight to ten inches, which followed the sectional outline of the mound at a depth of about one-third down from the surface.

As the digging proceeded, abundant remains of fire, charcoal, and burnt clay were met with on the level of the old surface of the ground, increasing as the centre was neared.

On reaching the centre a female skeleton was found (fig. 1, Δ). It lay east and west, with the head to the west, at a depth of four feet from the top of the tumulus. The stones and clay of the upper part of the mound lay directly on the bones; little if any attempt had been made to form a structure over the body; and as the bones were

in a bad state, it was not possible to determine the manner in which the body had been disposed.

By the side of the human skeleton, on the south side, were some remains of red deer, and remains of a small horse (fig. 1, b). The remains identified as deer consisted of two horns and a leg-bone. The tines of the horns had been broken off, with the exception of the first tine in each case, so that they took the form of deer-horn picks. A noticeable feature is that the handle-end of the example figured shows well-marked traces of cuts, also the stumps left where the tines have been removed show marks of cuts in both cases (fig. 2). The second horn is not figured, it is imperfect; the lower half of the handle portion broke into pieces in attempting to remove it.

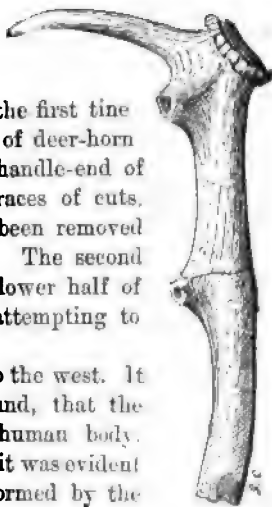


FIG. 2.

The horse lay on its left side, the head to the west. It is probable, from the number of bones found, that the horse was buried whole along with the human body. All the remains lay on the same level; and it was evident from the clearly marked horizontal line formed by the bone-bed across the section of the mound, that a surface had been prepared on which the bodies had been laid.



Height about 12 inches.

FIG. 3.

Directly below the bodies of the woman and horse a cremated interment was found on the level of the old surface of the ground (fig. 1, c). It rested on a rude block of stone, and consisted of an almost plain urn inverted over the burnt bones. No chamber or structural arrangement of stones to protect the urn had been attempted. The urn was in a bad state, and could only be removed in fragments. A drawing of the vessel restored is given (fig. 3). The decoration round the upper part is very rudely scored.

The most interesting feature of this tumulus is the burial of the woman and horse in the upper part of the mound. Such burials have been usually considered to be secondary interments of later date than the

principal burial. In the present case it is not necessary, I think, to draw that inference. The sand band, already referred to, though not strongly marked at this point, ran above the layer of bones: and the impression made on my mind when excavating the tumulus was that the upper interments were contemporary with the cremated burial. We have here possibly a case of the burial of a slave or concubine, perhaps as guardian of the grave, with the chief or important person for whom the tumulus was erected.

APPENDIX I.

REPORT ON THE ANIMAL REMAINS. BY R. F. SCHARFF, PH.D., B.Sc.

The bones and teeth handed over to me by Mr. Coffey from the tumulus belong to man, horse, and red deer. I submitted the human remains to Prof. Dixon, of Trinity College, for examination, and he very kindly furnished an interesting report on them (annexed herewith).

HORSE.

The Horse remains all belonged to one individual, viz., a seven-year-old stallion of small size. They consisted of the following parts:—

1. Occipital fragment of the cranium.
2. Three broken pieces of the right and left half of the lower jaw, with some teeth; and of the front portion, with all the teeth in position.
3. Four lower and four upper premolar and molar teeth; and one upper incisor.
4. One rib and one vertebra.
5. Right and left humerus (complete).
6. Right radius (ulna broken off).
7. Two fragments of right and left tibia.
8. Left metacarpal.
9. First phalanx of right hind foot.

To judge from the length of the humerus, radius, and metacarpal, the forelimb belonged to a small race of horse or pony. The measurements of these bones are somewhat larger than those given by Dr.

Marek of an Exmoor pony; but they are almost identical with those of the largest of the horses found at La Tène (*cf.* Marek).¹

According to Dr. Marek, the La Tène horse agrees in its fundamental characters, except size, with the oriental races of horses whose typical representative is the "Arab" (p. 28). This, what he calls *helveto-gallic*, horse was 135–141 centimetres high at the withers, and it thus occupies an intermediate position between Arabs and Ponies.

The cranial fragment of our Loughrea horse was too small to be utilized for any decisive measurements. The lower jaw, however, can be almost reconstructed from the fragments, so that some general idea of the cranium is obtainable. It appears to me that the complete skull of the Loughrea horse must have somewhat resembled that of the La Tène horse; but the cranium was higher, and probably more muscular, and the lower jaw more powerful, with a wider snout.

A striking character in the radius of the Loughrea horse is the great width of its proximal end. Whether this indicates greater muscular power, or greater swiftness of action in the limbs, I am not prepared to say; but it may be of interest to compare the relationship of the width of the proximal end of the radius with that of its length in different races of horses.

Fortunately, Dr. Marek has measured a number of interesting horse remains, and has supplied us with accurate data of their salient characters.

In the accompanying table I have given his measurements (in millimetres) of the La Tène horse, of an Arab mare, of an Exmoor pony, and of a Kiang. To these I have added similar measurements obtained from a Connemara stallion, from a radius of the Irish cave horse (Shandon Cave), and of the famous racehorse Rollesby, whose skeleton is in the National Museum :—

[DIMENSIONS OF RADIUS.]

¹ Marek, J. : "Das helvetisch-gallische Pferd." *Abhandl. Schweiz. paläontol. Gesellschaft.* Vol. xxv. 1898.

| DIMENSIONS OF RADIUS (in <i>Millimetres</i>). | | | | | | | | |
|---|----------|-----------|-----------------------|-------|--------------------|--------------|---------------|--------|
| | Shandon. | Loughrea. | Racehorse Rolleby. | Arab. | Connemara Pony. | Exmoor Pony. | La Tène Pony. | Kiang. |
| Extreme length, . | 329 | 303 | 393 | 358 | 345 | 279 | 303 | 318 |
| Greatest width of proximal end, | 85 | 78 | 97 | 86 | 82 | 66 | 68 | 72 |
| Proportions be- tween above mea- surements, | 3.87 | 3.90 | 4.05 | 4.16 | 4.20 | 4.23 | 4.30 | 4.41 |

The proportions between the Shandon Cave horse and the Loughrea horse are almost identical, though the former belonged to a somewhat larger race. It is also of interest to note that a typical Arab and a racehorse both possess a wide radius in proportion to its length, and that they stand midway in that respect between the two ancient horses and the modern ponies.

For future comparison with other similar parts, I herewith give a few more measurements taken of the Loughrea horse remains :—

Right Humerus.

| | | | | |
|-----------------------------|----|----|----|-----------|
| Extreme length | .. | .. | .. | 267 mill. |
| Joint to joint | .. | . | .. | 247 „ |
| Greatest width of upper end | .. | .. | .. | 83 „ |
| Smallest diameter | .. | .. | .. | 32 „ |

Left Metacarpal.

| | | | | |
|-------------------------------------|----|----|----|-----------|
| Greatest length | .. | .. | . | 213 mill. |
| Width of upper articular surface | .. | .. | .. | 50 „ |
| Diameter of the same, front to back | .. | .. | .. | 30 „ |
| Greatest width of lower end | .. | .. | .. | 47.5 „ |

Lower Jaw.

| | | | | | |
|--|----|----|----|----|----------|
| Height of horizontal branch at middle of | | | | | |
| M. 3 | .. | .. | .. | .. | 84 mill. |
| Height of horizontal branch at anterior | | | | | |
| margin of P. 3 | .. | .. | .. | .. | 64 „ |
| Width of incisor portion | .. | .. | .. | .. | 64 „ |
| Transverse width of condyle | .. | .. | .. | .. | 46 „ |

First Phalanx of Hind Foot.

| | | | | |
|-----------------------|----|----|----|------------|
| Whole length | .. | .. | .. | 73·5 mill. |
| Width of proximal end | .. | .. | .. | 50·5 „ |
| Width of distal end | .. | .. | .. | 40·5 „ |

RED DEER.

The Red Deer remains were very scanty, and belonged to different individuals.

There was, in the first instance, a fragment of the right metatarsal of a small adult deer. This had evidently been exposed to rain and wind for a long time, as it showed signs of much weathering.

Besides this, there were three shed antler fragments from two different individuals, which, to judge from their incisions, had been used for the purpose of bone-implement manufacture. The antlers of red deer were much used for bone-implements in former times on account of their hardness.

APPENDIX II.

REPORT ON THE HUMAN BONES. BY PROF. A. FRANCIS DIXON, M.D.

The bones submitted to me were :—

1. Left tibia complete, but in two fragments.
2. Lower half of left fibula.
3. Upper two-thirds of the shaft of the right tibia, in two fragments.
4. Upper three-fourths of the left femur.
5. Inferior extremity of right femur.
6. Left os calcis and left astragalus.
7. Second metatarsal bone of the left foot.
8. A small portion of the right maxilla retaining the canine and premolars in position.

In addition to these are four isolated teeth :—

Molar (probably 2nd) of lower jaw.

Premolars (1st and 2nd) of lower jaw.

Lateral incisor.

All the bones appear to have belonged to the same individual.

The tibia, which is long and slender, exhibits a marked degree of torsion. It almost certainly belonged to a well-developed young woman of about twenty-five to thirty years of age, and about 5 feet 3 inches in height. The lower extremity exhibits a slight pressure facet—for the neck of the astragalus—on its anterior margin ; but the antero-posterior convexity of the outer articular surface of the upper end is not very marked.

The appearances presented by the fragments of the other long bones agree in indicating a female subject of about twenty-five to thirty years of age. In the fibula and in the femur a faint groove indicates the line of epiphyseal junction.

The teeth, which are in a beautifully sound condition, well preserved, and but little worn, undoubtedly belonged to a young person.





SEAL OF THE FRATERNITY OF S. ANNE IN S. AUDOEN'S CHURCH (X2.)

Attached to Deed No. 29, A.D. 1569.

(From a drawing by Mr. A. M'Googan.)

III.

HISTORY OF THE RELIGIOUS GILD OF S. ANNE, IN S.
AUDOEN'S CHURCH, DUBLIN, 1430-1740, TAKEN FROM
ITS RECORDS IN THE HALIDAY COLLECTION, R.I.A.

By HENRY F. BERRY, I.S.O., M.A.

[PLATE I.]

Read JANUARY 11. Ordered for Publication JANUARY 13.
Published MARCH 24, 1904.

FORMING portion of what is known as the "Haliday Collection" in this Academy, are some 160 ancient deeds and documents (including three testaments), which would appear to have lain in the strong room, almost unnoticed, since their presentation. They are all that are now known to be extant of the muniments and title-deeds of the religious gild of S. Anne in the church of S. Audoen, save a volume of abstracts of 841 documents made in 1772 by James Goddard, clerk of the gild, among the Gilbert mss. in the City Hall. The deeds in the Academy were originally numbered 1 to 600, while one of them bears the number 831, but there only remain, practically, Nos. 50 to 120; 500 to 570; and 580 to 599, which extend in point of date from the year 1285 to 1740. Though S. Anne's gild was not founded until 1430, some of the title-deeds of its subsequently acquired property extend thus far back. Two of them belong to the thirteenth century, about twenty are dated in the fourteenth, and most of the remaining documents were drawn up in the fifteenth and sixteenth centuries. What became of all the rest it would be idle to conjecture, but inasmuch as this gild of S. Anne acquired extensive property in the city and county of Dublin and elsewhere, which (owing to a suspicion that the trusts impressed on it were not carried out) subjected its affairs to unpleasant inquiry by the Church and the Government, it became safer for those interested to conceal or destroy incriminating documents. To Lancelot Bulkeley, Archbishop of Dublin, may be attributed the preservation of those now under consideration. James I. and Charles I. essayed to pry into the working of the gild and its alleged illegal procedure, while a "too great eagerness in searching into the affairs

of the fraternity" was assigned as one of the causes which hastened the end of that ill-fated minister of the latter—Wentworth, Earl of Strafford.¹

During a search for ancient wills connected with the diocese of Dublin, attention was directed to this portion of the Haliday collection; and of so much interest and importance did these original and apparently unknown documents appear, that it seemed only right to take steps towards making the Academy acquainted with their contents.

They deal with the property of the fraternity in that portion of the ancient city immediately round S. Audoen's church, including High-street, Cook-street, Rochel-lane, Keyzar's-lane, Winetavern-street, and Merchants'-quay; in the suburbs, Francis-street, James's-gate, &c.; and at Kilmainham, Crumlin, &c., in the County Dublin. While adding a good deal to our knowledge of the city, they afford considerable information as to old-time citizens and their families.

It is proposed to give a short account of the foundation of S. Anne's gild and its objects, noting anything of special interest in the Deeds, and then to deal with its later history, as revealed in certain proceedings against the fraternity, initiated by the Lord Deputy and Council in the reign of Charles I., and by Chancery Bills, &c., at a subsequent period. A Calendar of the documents, similar in plan to that adopted for the Christ Church collection (Appendices to the 20th, 23rd, and 24th Reports of the Deputy-Keeper of the Records), forms Appendix No. I. Appendix No. II. is a list of Masters and Wardens, 1434–1740.

S. Audoen, Bishop of Rouen, died in 683; and as his memory was highly venerated among the Anglo-Norman settlers in Dublin, their church here was fittingly dedicated to him as their patron. S. Audoen's (or S. Owen's) church was originally conferred by Archbishop John Comyn on the Convent of Gráce Dieu; but Henry de Loundres allocated it to the Treasurer of S. Patrick's Cathedral. Within this church, prior to the establishment of S. Anne's gild, stood a chapel of S. Mary the Virgin, and there were also altars erected to S. Catherine, S. Nicholas, S. Thomas, and S. Clare.

On 16th December, 1430, in the ninth year of his reign, King Henry VI., by letters patent, with the assent of Richard, Archbishop of Dublin, Justiciary of this Kingdom, in homage and reverence of God, the B. V. M., and S. Anne, and with a view to fulfilling the pious intentions of the said prelate, and of Christopher Barnewall, John Blackney, Walter Tirrell, knight; John fitzRobert Barnewall,

¹ *Hunting of the Romish Fox*, 1683.

Thomas Cusacke, esquire; Robert White, merchant; Robert Silke and William Sutton, clerks; John Walshe, merchant; James Blackney, James Cusacke, Robert Cusacke, Edward Brien, and John Stafford, baker, granted to them licence to found a chantry and endow a chaplain in the church of S. Audoen, in honour of S. Anne, together with a gild or fraternity of same, to consist of men and women. The patent contained the provisions usual in cases of religious gilds, allowing liberty to plead and be impleaded, to have a common seal, &c. The fraternity was to support six chantry priests, one to celebrate in a chapel which was to be built and dedicated to S. Anne, one in the Lady chapel, and one at each of the four altars above named, for the souls of the king, the founders, brethren and sisters, &c.; and it was allowed to hold lands and premises to the value of 100 marks yearly for their maintenance.

S. Anne's chapel was erected at the south side of the nave, running parallel to it as far as the chancel. The south wall was taken down, and six new pillars formed five bays, which caused the chapel to become the south aisle of the church.

On 1st August, 13th Henry VI., the Crown granted to several persons licence to assign to John Burnell, master of the gild, Robert Wode and David Rowe, wardens, certain premises in the city to the yearly value of 8 marks, 7 shillings, to hold to them and their successors for ever, in part satisfaction of the said sum of 100 marks. This licence is enrolled,¹ and in the margin stands the note—"In part satisfaction of the mortmain of S. Anne's chapel."

A number of the documents afford information regarding the appointment of chantry priests on the foundation, their duties, maintenance, &c.; and as to the college or hall, together with the various chambers used for their residence and accommodation. As the existence of any documents of a similar nature now extant in Ireland is unknown, the light thrown by them on the lives of the ancient chantry priests in this city is quite new. These priests had to serve in a general way in the choir, while one of the chapels or altars was specially assigned to each on appointment. Separate chambers or sets of apartments were allotted them, and the average yearly salary pertaining to their office appears to have been the sum of 8 marks.² The priests were to have a competent table (or board) provided—"a table honestly

¹ Patent Roll, 13th Henry VI.

² In 1392 ten marks was the salary assigned to the Chantry Priest of S. Peter's, Cheap, London.

found, according to the degree of a priest ; " and the tenure of office was for life, " as well in sickness as in health, as far forth as God would give grace and bodily health." In each indenture the gild bound itself to find all ornaments necessary for singing mass—bread, wine, wax, chalice, mass-book, vestments, &c., while the priests, on their parts, agreed to sing at all divine services, so far as their learning and " conyng " extended, binding themselves not to be absent without special leave, and not to relinquish their posts except on promotion to benefices.

In 1534, when the gild acquired the residence, garden, and premises belonging to the family of Blackney or Blakeney, known as Blakeney's Inns, in exchange for some lands at Saucerstown, near Swords, the place was formed into a college for the chantry priests, and in their appointments the special apartments assigned to each are specifically designated ; thus, we learn that one was known as the " second tower of Blakeney's Inns " (the chamber next the vault) ; another as the " fourth chamber," &c., and the gild undertook their repair and maintenance. In certain instances the occupants themselves effected improvements. Sir James More, whose appointment dated from 1535, hedged a little garden in his possession with " quick frythe," and it is stated that he intended to erect some buildings within the precincts of S. Anne's Inns ; a stone wall, made at his cost, is mentioned later on. Sir Thady Cor built a loft, with stairs, over a cellar under his chamber, called " S. Anne's workhouse."

In 1546 Robert Fitzsymon, clerk (one of the two attached to the church),¹ was granted an annuity of £8, in part payment for his services in S. Audoen's church, in singing and playing at the organs at all services, principal feasts, and holydays ; on " feryall " days only, at Mary mass and anthem, and Jesus mass on the Friday ; he was to have the appointment of a sexton. The other clerk was to carry holy water, and wait on the curate in visiting sick folk. Half profit of the bells and church cake was to be Fitzsymon's.

In 1540 William Fynnyn was appointed for life to one of the clerkships in the church at a salary of 7 marks, with halfendele of the church cake, bells, and " mind " money. His duties consisted in singing and reading in choir daily at divine service ; every second week he was to cause fire and water to be brought, and he was also to ring the bells, and wait on the parish priest in visiting sick folk.

¹ Joan Douce in 1381 bequeathed a sum of money to the two clerks of S. Audoen's parish church. (See No. 20.)

The following is a list of the chantry priests of S. Anne's gild during the greater portion of the sixteenth century, compiled from its records :—

William Gafnee, — 1531.

Thady Cor, 1513–1535 (and subsequently), S. Anne's altar.

Thomas Cale, 1512–1529 (and subsequently), S. Nicholas' altar.

Thomas More, 1531–1536, S. Katherine's altar.

James More, 1535–1545 (and subsequently), S. Clare's altar.

Henry Gaurane, 1535–1549, S. Thomas' altar.

George Browne, 1545–1571 (and subsequently).

Thomas Gafnee, 1546– , S. Anne's altar.

Symon Carpenter, 1546– , S. Mary's altar.

John Rocheforde, 1549– , S. Thomas' altar.

Nicholas Cor, 1552–

Thomas Caddell, 1564–

Special additional chaplains were appointed to S. Audoen's, in fulfilment of bequests by testators for the maintenance of priests to celebrate masses. The executors of John Stafford, baker, one of the founders, who appears to have accumulated a large fortune, conveyed to the gild, in 1450 (No. 119), a number of tenements and messuages, with a view to such celebrations, in accordance with a certain deed. Neither Stafford's testament nor deed is now forthcoming. In 1478, sir Robert Dovedall (No. 1), in his lifetime, bestowed on the gild a gift of 100 marks, to be put out at interest, used in merchandise at a profit, or invested in the purchase of land in the country; the yearly income derived to be devoted to the support of two priests, who were to pray for him. After sir Robert's death, the gild was to see to such priests keeping his "mind" on the anniversary of his death, and they were to be maintained in addition to the regular chaplains.

In 1488, pursuant to the will of Thomas Wolton (or Walton), which is not now in the collection, the gild (No. 2) granted to John Dromyn,¹ chaplain, a sum of 40*s.* yearly, charged on a messuage of Wolton's, which he was to inhabit, and which the fraternity became bound to keep in repair. Dromyn was to have board supplied, and as the gild was to furnish bread, wine, and wax, the premises had evidently been bequeathed on condition of masses being celebrated for the donor. Thomas Wolton, who is described in 1450 as citizen of London, would appear to have settled in Dublin in that year, when he had premises in High-street leased to him.

¹ John Dromyn was Proctor of S. Olave's in 1486. (Dr. Hughes' *S. Jean's*.)

Very specific directions for observance of an obit are contained in a deed (No. 5) executed in 1529 by Richard Talbot, merchant, of Dublin, who bestowed on S. Anne's gild certain premises in the city, on condition that the priests maintained on S. Anne's "Rent" should yearly in S. Audoen's, on the Sunday before the feast of S. Barnabas, observe same with solemn mass and *dirige*, by plain song. On the Saturday previous, according to the "old laudable custom," the city bellman,¹ was to go to the old station-places appointed in the city to "bid" a *pater noster* and *ave* for said Talbot.

Another obit to be observed by the gild was that of William Queytrot (No. 11), which, in 1545, they bound themselves to keep yearly "during the world," on the Sunday next after the feast of S. Bartholomew, with requiem mass by note, with fine "pryketts" of wax burning.

A similar agreement (No. 12) was entered into in 1545, pursuant to the will of Alexander Bessyke (No. 22), under which money was paid to the college, in consideration of the obit² of himself and his wife being observed. He was to be buried in S. Clare's chapel.

The deeds are full of information as to the district immediately round S. Audoen's; and a study of them has made it possible to describe, with some approximation to accuracy, the position of the various buildings connected with S. Anne's gild. It seems certain that, from the time of its foundation, the six chantry priests were accommodated with distinct sets of apartments, each denominated a chamber,³ but whether specially erected for their use is not clear; most probably houses in the vicinity of the church, which had from time to time been bequeathed to the fraternity, were used as residences for the chaplains. In 1425, a house standing by the stile of the churchyard,⁴ was described as the "chamber of S. Mary's chaplain"; this,

¹ A chaplain was to celebrate in S. Martin's church, Leicester, for certain souls, under a deed of 1452, and the mayor and community were to keep the obit on 8th August by requiem mass with music. The bellman (polictor) of the town was to go through it to announce the obit, as was the custom of the town. (*Records of the Borough of Leicester, 1327-1509*, ed. by Miss M. Bateson.)

² See *Obits and Martyrology of Christ Church* (ed. Todd), *Introd.*, p. xxviii, as to celebration of obits under wills, by which testators bequeathed valuable gifts to the priory. Dr. Todd notes the fact of the observance of obits being made the subject of regular purchase and stipulation.

³ This would include at least a "hall" and sleeping-room. In Christ Church the Precentor's Chamber, in addition to these, contained a study, garret, and kitchen.

⁴ This turnstile stood at the upper end of S. Audoen's-lane, near the Corn Market.

however, was just prior to the institution of the gild, and the priest for whom it served as a residence was connected with the church. Sir William Gafnee, to whose chaplaincy at S. Katherine's altar, and residence, Sir Thomas More succeeded, occupied the chamber described as that on the right hand next the entry to "Cromlyng." On the acquisition of Blakeney's Inns by the gild, More moved into the tower of that building. "Old Crumlin" was the name of a messuage close to the steeple of S. Audoen's church. In a deed of 1705 (No. 124), its site is represented as then waste, bounding on the south to the gild house, on the north to the church, and west to S. Audoen's lane. The Haliday deeds show that a narrow lane had run between the south wall of the church and Old Crumlin, and the gild-house lay between this last and the Corn Market. This lane gave access to a door in the south wall of S. Anne's aisle, and the passage must have been a short one, probably terminating at the opening leading to the underground passage beneath the church, beyond which it was blocked by the west end of a house in High-street. In 1572, Alderman Goghe, to whom the house then belonged, obtained possession of the lane.

In 1534, James Blakeney conveyed to S. Anne's gild the tenement known as Blakeney's Inns, with a turret and garden. No particulars appear hitherto to have been available with regard to this mansion, though our public and civic records afford information as to several other town residences of leading civic families, denominated Inns, such as Burnell's, Coryngham's, Jeneval's, and Preston's Inns. So full a description of Blakeney's Inns is given in S. Anne's deeds, that the task of reconstructing, to a certain extent, the plan of the buildings and grounds attached, is not a difficult one. The Roman Catholic church in High-street occupies the site of the Inns and portion of their grounds, which were bounded on the north by the line of the old city wall, on the south by tenements in High-street, on the west by S. Audoen's-lane, and on the east by Ram-lane.

The family of Blakeney, or Blackney, had been resident in Dublin from (at latest) the days of King Edward III., and it is probable that it had been settled here long before. William Blakeney was sheriff of Dublin in 1379, and John Blakeney was appointed Chief Justice of the Common Bench in 1421. In the conveyance of his old family residence to the gild in 1534, James Blakeney is described as of Rykynhore, and he exchanged the Inns for Saucerstown, near Swords, then the property of the fraternity. Its governing body appear to have speedily set about making the necessary alterations in what must have been very old premises, with a view to setting them

apart as a residence for the chantry priests. The name of the place at the same time underwent a change, and it was thenceforward known as "S. Audoen's college." The apartments may not all have been ready for occupation for a time, as in 1588 a proviso was endorsed on one of the deeds, that "if the priests of S. Audoen's keep residence," they are to have a small cellar under the little buttery. Under the Inns certain cellars, forming portion of the premises, had been leased to various citizens, and were in use by them.

THE COLLEGE.

A great door in the eastern side of S. Audoen's-lane¹ led into a large close, bounded on the north by the city wall, and on the east by Ram-lane, while at its south-western end lay a small garden between it and the north wall of the church. East of this garden lay another larger one, in which stood the pile of buildings formerly known as Blakeney's Inns. Each garden had a door communicating with the great close or court.

The main building, which boasted a tower, contained a great hall and a kitchen (also called the little cellar), at its east end, under what was long known as sir George Browne's chamber; also a buttery adjoining the hall. The chambers specially mentioned in the deeds are—the second chamber of the tower, next the vault, and the uppermost chamber of the tower; the fourth chamber, the east chamber next the garden (which had "rooms and places"), and the third chamber of the *gallery* next from the church.

A new gallery, which "joined the church door," was erected, and it probably led, for the convenience of the priests serving in the church, from the great hall or certain of the chambers, to the north door in the chancel wall. While the Blakeney family held the premises this was unnecessary; but once the chantry priests went to reside in the Inns, a direct mode of communication had to be devised, and this was achieved by means of a gallery, which gave them an approach from their apartments through the garden to the nearest door of the sacred edifice. Some portion of this ancient doorway, which had moulded

¹ In ancient times there were houses on both sides of S. Audoen's-lane; on the east side they extended from the north wall of the church to S. Audoen's gate; on the west from the corner of Keyzar's-lane to the tower over the gate (the ground being at a higher level). The backs of these last opened into the cemetery, the northern side of which was bounded by the old city wall.

jambes of yellow sandstone, and which was built up by order of Dr. William Lightburne, is still to be seen.

In addition, the property included a large cellar, which bounded to the church on the south, the entry gate of the college on the north, and the lane on the west. These boundaries are precisely those of the little garden lying between the great court and S. Audoen's church, so that the cellar would appear to have been constructed beneath it; this probably communicated with the underground passage which so long existed, and which was the subject of more than one lawsuit. Another great cellar is described as lying on the north side of the great door.

In 1554, the gild are found letting the great garden, free egress and regress being retained through the great outer door, and the door leading into the garden from the court. In 1569, a further letting took place, when a stipulation was made that ladders might be fixed in the garden, on its becoming necessary to cover sir George Browne's chamber. By the year 1588, all the building formerly known as Blakeney's Inns appears to have become ruinous, and the gild leased it, with its appurtenances, in 1593, for sixty-one years, to Alderman Nicholas Weston.

In the year 1535, sir Thady Cor, one of the chantry priests who officiated at S. Anne's altar, resided in a house in S. Audoen's churchyard, underneath which was a cellar known as S. Anne's "workhouse."¹ Over a certain part of this he agreed to build a loft with stairs, and to roof the same. We learn from the recital of another deed that this "workhouse" was a stable, and that it lay north of the churchyard.

It is noteworthy that certain of the documents which have been quoted are marked as having been enrolled in Domesday, a record of the Corporation, wherein deeds affecting land in the city were bound to be entered.

PROPERTY OF THE GILD, &c.

In addition to the college and some premises close by, the fraternity owned messuages and tenements in the parish of S. Michael, in High-street, Corn Market, Cook-street, Rochel-lane, Keyzar's-

¹ The masons engaged in rebuilding portion of Christ Church Cathedral in 1564 had as a special workplace one of the cellars under the church, probably what was afterwards the Dean's stable. The cellar mentioned above was, no doubt, used by workmen employed by S. Anne's gild, in connexion with its extensive property in the neighbourhood.

lane, Winetavern-street, Bridge-street, Scarlet-lane, Merchants'-quay, Francis-street, S. George's-lane, S. Kevin's and S. James', all in the city and suburbs of Dublin. In the County of Dublin it possessed property at Crumlin, Kilmainham, Nutstown, and Saucerstown, near Swords.¹

The names of two lanes not previously known to have existed are mentioned in the Deeds. Kisshoke's-lane occurs as a boundary in No. 120 (A.D. 1482); but in this instance a mistake may possibly have occurred, as the situation would seem to indicate that Keyzar's- (also called Kisher's) lane, close by S. Audoen's church, was intended. A family named Kysshoke resided in the neighbourhood between 1329 and 1398, as appears from the Christ Church Deeds; and some lane, which subsequently disappeared, may have been named from that family.

No. 57 (A.D. 1382) deals with a message in Golden-lane, parish of S. John de Bothe-street, as to which lane no information existed. "Le Golde"-lane, in the parish of S. Michael, is mentioned in a document of 1438, among the Deeds in Trinity College Library, which may be the same. Confusion might possibly have occurred between the two, for as the parishes, both very limited in extent, adjoined one another, it is unlikely that two streets of the same name should have lain in such close proximity.

Occasionally the old city wall is mentioned as bounding certain of the premises—for instance, in Rochel-lane and Winetavern-street; and the ancient city watercourse appears as the "pipe of the water of the city," and as the "aqueduct." The High Pipe or cistern, opposite S. Audoen's, is also alluded to.

The Deeds afford some fresh information as to property in the city belonging to monasteries and convents, &c. A message in Cook-street, near S. Audoen's cemetery, is described as being owned by the Abbess of S. Mary del Hogges in 1450; in the year 1478, the gild of S. John the Baptist,² in S. John's church, had an interest in some ground in High-street; while in very early times S. Mary's Abbey owned a house near S. Audoen's cemetery, which by the year 1593

¹ From the Abstract Book of S. Anne's Deeds (Gilbert mss.), compiled in 1772, it would appear that the fraternity had owned, in addition, property in Bertram's-court, Burnell-lane, and Oxmantown, in the city, and at Ballydowd, Carpenters-town, Dolphin's Barn, Esker, Leixlip, Lucan, Newcastle, and Ballyowen, in the County of Dublin.

² The chapel of this gild in S. John's church was used from 1417 by the fraternity of Tailors.

had become the property of the city. In 1285 is found a grant of rents to the Hospital of S. John without the New Gate, and also one to the Nuns of Tachmelyn.¹

Some further interesting particulars may be gleaned from these documents of S. Anne's gild. In the year 1486, Thomas Talbot, lord of Malahide, held lands in Kilmainham, while Richard Mareward, baron of Skreen,² owned a messuage near the Bull-ring and the High Pipe, which in 1454 he dealt with as owner. A Chief Justice of the Court of Common Pleas, in the reign of Henry VIII., had his residence by the High Pipe, and the premises would appear to have extended to Rochel-lane; this was Patrick Bermingham, whose ancestor had been Chief Justice of the King's Bench in the time of Edward IV. Land in the same vicinity, held by Eleanor Dowdall, wife of William Preston, viscount Gormanston, is named (No. 82) as bounding, in 1527, a tenement dealt with in one of the Deeds. Sir William Domville, Attorney-General for Ireland, in the reign of Charles II., held some of the gild property, as in the year 1664 he is found surrendering what was known as the "small farm," containing twenty-six acres, which lay in Kilmainham (No. 159). The name of a Vicar of Naas, not previously known, has been recovered. He—Thomas de Donabat—appears in a document of 1376 (No. 133) as grantee of a cellar in Winetavern-street.

In 1482, the gild of S. Anne granted (No. 120) to Rowland FitzEustace, lord of Portlester, and Margaret, his wife, for their own lives, and the lives of two sons,³ a messuage near S. Audoen's cemetery. This nobleman, in 1455, had erected in S. Audoen's church the chapel in honour of S. Mary, known as the Portlester chapel, and in the porch is still to be found portion of an altar-tomb (a cenotaph) erected to the memory of himself and his wife, which bears their effigies. This chapel was constructed by extending S. Anne's chapel or aisle eastward alongside the chancel and choir, terminating in line with the eastern gable; the south wall for the length of the new chapel was taken down, and, by means of pillars, three bays were

¹ Timolin, Co. Kildare.

² This title was originally bestowed by Hugh de Lacy, as Lord Palatine of Meath, on the Feipo family; on failure of the male line, and marriage of Margaret, heiress of Francis Feipo, with Thomas Mareward, it was assumed by the Mareward family.

³ These sons—Richard and Oliver—are not mentioned in Burke's *Dormant Peerage*. They may have died without issue in the lifetime of Rowland, lord Portlester, who survived until 1496.

formed. The whole church, then, was transformed into one consisting of two aisles, the south aisle consisting of the two chapels.

Very few of the more ancient deeds are dated, save that, in accordance with the usage of former times, those dealing with property in the city have appended as witnesses the names of mayors and bailiffs of Dublin in office at the date of their execution. A dated catalogue of those civic officials from the reign of Edward II., taken from an ancient list that hung in the great room of the Tholsel, forms an appendix to Harris' *Dublin*; but as it has proved in many instances inaccurate, any original contemporary documents which serve to correct the table are important. In this respect certain of the Haliday deeds are useful, as they supplement the information regarding mayors and bailiffs of Dublin afforded by the Christ Church collection, and those in the Library of Trinity College.

A few of the documents are of a class quite distinct from the ordinary mediæval charter. Among the more noteworthy is No. 37, dated in 1326, which is an agreement as to the erection of a wall between two tenements, with a provision for carrying off rain-water by means of gutters. No. 1 contains some quaint clauses in reference to the profitable investment of money by trustees; and as early as 1478, they are found to have been given a discretionary power of purchasing lands and fields "in a good part of the country."

Two of the wills in the collection are of great interest, as they throw additional light on the social condition, the manners and customs of Dublin citizens in the fourteenth and fifteenth centuries—a period for which few testamentary documents are now extant. They enumerate a number of articles in daily use, including plate, household furniture, apparel, weapons, &c. In 1381 (No. 20) the prisoners in the castle, in the town prison, and in the Tholsel become objects of charitable bequests. Another prison—that of the archbishop of Dublin as lord of the manor of S. Sepulchre—is mentioned; but in this instance the priest attached to it is the legatee. The cripple who lay opposite the inn of Nicholas Seriaunt (mayor of Dublin in 1374) was also remembered.

In the schedule of debts due to Richard Codde, baker, 1438 (No. 21), the then archbishop of Dublin (Richard Talbot) is returned as owing the testator £10 for bread, and the prior of Holy Trinity, Dublin, was also his debtor. In the former case he forgave the prelate £2, so that he might be favourable to testator's wife. One of the items in this list of debts is the sum of 11s. due by Thomas Newbery, for "bread delivered to the Spaniards." The will and inventory were

made immediately before Christmas, and it is possible that some Spanish vessel laden with wine may have been wrecked in Dublin bay, and various citizens may have contributed to the relief of the crew, or such members of it as were rescued. Another explanation suggests itself. Newbery, who was several times mayor of Dublin, was an extensive merchant, with a house on the quay by the Crane. Some Spaniards may have come up to the quay with goods for him, in one of the light vessels that brought wine, &c., from the large ships that were obliged to anchor near Dalkey; and the purchase of bread would have been for their use during their stay. One of the charitable bequests made in Codde's will is money for providing a meal for the poor and infirm in the Hospital of S. John without the New Gate. That some educational institution was connected with this parish of S. Audoen in old times is evident from this will, and that of Joan Douce made in 1381. The latter left 2*s.* to the four scholars in S. Audoen's church; and Codde bequeathed 4 marks for a two years' exhibition in the schools: these may have been for the choristers attached to the church.

After the Reformation and throughout the reign of Queen Elizabeth, the gild of S. Anne remained unchallenged and unquestioned. In the year 1611 commenced the earliest of those proceedings which in the seventeenth century, on the part of the Crown, the Irish Council, some public bodies and private individuals, began to be directed against it. In Michaelmas term of that year sir John Davis, attorney-general, filed an information in the King's Bench¹ against Mathew Hancocke, master, and Nicholas Stephens and Edmond Malone, wardens, requiring them to answer by what warrant they exercised certain liberties in the chapel of S. Anne, in S. Audoen's church. The fraternity pleaded their charter, reciting all the privileges conferred by its clauses, which had been exercised uninterruptedly by them and their predecessors. The attorney-general replied that this plea was not sufficient in law to preserve their lands, &c., from being seized into the King's hands; and here the proceedings seem to have terminated.

In February, 1634, Rev. Thomas Lowe, a vicar of both the Dublin cathedrals, brought John Edmonds, an attorney, before Launcelot Bulkeley, archbishop of Dublin, with a view to his delivering to that prelate a number of rent rolls and papers, the property of the gild,

¹ Plea Roll (K. B.) 4-19 Jac. I., ro. iv.

which he declared to have been discovered among the muniments of Richard and Christopher Fagan, who had been aldermen and mayors of Dublin, and who held lands and houses from the gild of S. Anne. Amongst these documents was found what purported to be a Bull¹ of Pope Pius V., promulgated in the third year of his pontificate (*circa* 1568-9), which commanded trustees, masters, overseers, and brethren of hospitals, gilds, and other religious institutions in England and Ireland, to let lands to none but members of the ancient apostolic faith. Lowe asserted that, in obedience to this, the property of S. Anne's gild, which was a special trust, was being devoted to improper uses, and that the fraternity divided the profits between its own members, Jesuit priests, and popish friars.²

The archbishop delivered up all the documents to Wentworth, the lord deputy, who in council decided that a breach of trust had been committed; and on 11th February, 1635, a commission under the great seal issued to John Bramhall, bishop of Derry, sir James Ware, knight, John Atherton, D.D., and Richard Fitzgerald, esq., empowering them to inspect the records of the gild, to investigate the sums expended on pious uses since 1603, and to inquire as to leases and fee-farms on foot, with the considerations paid for same. These inquiries were to be preliminary to an order for establishment of six priests, who were to be in possession of the college house belonging to the fraternity, which had been granted away for a term of years. The college and grounds were to be restored, and the Rev. Thomas Lowe preferred; new brethren to be appointed, and a principal room in the college reserved for meetings of the gild, and as a place for safely keeping its muniments.

In a return (dated 20th June, 1637) to the above commission, the commissioners reported that they had, on search, discovered a large number of houses within and without the walls of Dublin, as well as several townlands and farms in the counties of Dublin and Meath, the property of the fraternity, which were concealed.

From the date of Lord Strafford's recall matters lay dormant, and

¹ See *Hunting of the Romish Fox, and the Quenching of Sectarian Firebrands*, &c., collected by sir James Ware, out of the memorials of eminent men both in church and state; published for the public good by Robert Ware, gent. Dublin: printed by J. Ray for Will. Norman, 1683. I am indebted to Mr. E. R. McC. Dix for the loan of his copy of this quaint volume, one of the few known to be in existence. In it appears a translation of this Bull.

² Gilbert's *Dublin*, vol. i., p. 288.

in the *Hunting of the Romish Fox*¹ the following four causes are assigned as tending to hasten his end:—

1. His reforming of Ireland into our English station.
2. Procuring subsidies by parliament at Dublin during his government.
3. Setting up the Star Chamber.
4. *Eagerness in searching into this gild.*

Three aldermen of Dublin—Carroll, Jans, and Malone, brethren and tenants of S. Anne's gild—are declared to have been active enemies of Strafford.

The commission and return mentioned above are not now among the public records, nor would they appear to have been enrolled in Chancery. They were, doubtless, preserved in the council office, and must have been consumed, together with other proceedings in the matter, in the calamitous fire of 1711. It is more than probable that whenever the mass of Strafford's papers and letters preserved at Wentworth Woodhouse, in Yorkshire, shall have been reported on by the Historical MSS. Commission, very important documents connected with this inquiry into S. Anne's gild, which caused that statesman so much anxiety, will be discovered. Meanwhile, the account of the proceedings in the *Hunting of the Romish Fox*, is valuable and important; all the more so that the narrative was compiled from papers and memoranda of sir James Ware, a most accurate historian, himself one of the commissioners of investigation.

One of the deeds bears the following endorsement:—"28 pieces perused by Mr. Alexander and Mr. Atherton, by order from the Councill Table, 10 July, 1634"; and a lease of 1639 contains a recital that Andrew Clerke (lessee) had, in obedience to an order of the Lord Deputy and Council, dated 31 May, 1638, delivered to S. Anne's gild a former fee-farm grant, for the purpose of its being cancelled.

The following is a list of the gild tenants, specified in the return to the commission, and there is a note to the effect that several others held premises, whose names had not been discovered at the date of the return:—

Sir Patrick Brown, knight.
 Patrick Brown.
 — Plunkett, alderman.
 Thomas Ball.

¹, See cap. viii., "The foundation of S. Anne's guild in Dublin, with the cheats of that Fraternity found out."

Edward Fyan.
 Clement Ash.
 Christopher White, alderman.
 Patrick Bath.
 John Harrison.
 Robert Caddoll.
 John Brice.
 Lymrick Nottingham, esquire.¹
 George Forster.
 Sir Philip Percivall, knight.²
 John Ball.³
 John, son of alderman Kenedy.
 Clement Usher.
 William Purcell.
 Robert Malone.
 Walter Kenedy, alderman.
 Dame Fitz Williams, widow.⁴
 Androw Clerk, alderman.
 Sir Robert Dixon, knight.
 William Malone, alderman.
 Nicholas Stephens, alderman.
 Edward Jans,⁵ alderman.
 James Mey.
 Christopher Hancock.
 Elliner Terrel, now with alderman Pallace.
 Robert Usher, of Crumlin.
 William Nangle, baron of the Navan, Co. Meath.
 Christopher Barnewall.

The Rev. Thomas Lowe's object in originating the proceedings, which produced such important developments, was to compel the income of the gild property to be devoted to the purposes and service of S. Audoen's church. Now that the Reformed religion was established in the land, there was no longer a necessity for a chantry, with its priests, &c.; and he sought that the ancient parish church, with which it had for a couple of centuries been connected, should receive

¹ *Lamerick* Nottingham's will was proved in 1648. He held lands at Ballyowen, &c., near Lucan.

² Ancestor of the Earls of Egmont, who obtained extensive tracts of forfeited lands by Patent. He died in 1647, having married a daughter of Arthur Usher.

³ Merchant, of Schoolhouse-lane, Freeman of the city, 1641.

⁴ Named in S. Audoen's Vestry Book as widow Fitz Williams.

⁵ Mayor, 1627-8.

the benefit of the gild endowments, which were gradually being converted to superstitious as well as private uses. Lowe affirmed that the fraternity was bound to support a chanting minister (to which post he claimed to be appointed) and six vicars. The gild pleaded that its entire revenue was but £74 14s. yearly, which sum was expended on the parson, organist, choristers, and singing men. The commission, however, reported that the annual rents amounted to £289 1s. 7d., by composition made with tenants for houses and premises discovered up to the date of the report. With reference to these transactions, nothing further appears to be discoverable.

During the years 1642–1644 the House of Commons had before it the affairs of the gild. In the first-named year, a committee was appointed to consider its grievances, which would appear to not have made any report. In April, 1644, the master and wardens petitioned for an attachment against some of their tenantry, which took effect, as in August of that year Christopher Handcock, one of the body, prayed for release from custody, and that the gild be left to its legal remedy against him. It was ordered that John, bishop of Derry, Randall Jewett, Zachary Turnepenny, Peter Stringer, John Tadpoole, and Thomas Lowe should appear and answer in writing the new petition of the gild; but the Journals of the House are silent as to any subsequent proceedings.

On 27th March, 1682, the prebendary and churchwardens of S. Audoen's, on behalf of the parish, filed a Bill in Chancery against alderman John Eastwood, master; Michael Chamberlain and Robert Ball, wardens; Thomas Browne, James Gernon, John Borr, and Ignatius Purcell, brethren of S. Anne's gild,—from the recitals in which a good deal of the foregoing information has been gleaned. As in the case of Lowe's action, the plaintiffs proceeded on the assumption that in its present circumstances S. Anne's gild and its revenues were to be used solely for the benefit of S. Audoen's church and parish. The Bill stated that the fraternity had originally been formed for the purpose of founding a chantry of six priests, two choristers, and six singing men, together with an organist, for the worship of God in said *parish church*, and that its annual revenues now amounted to £2500, as to which very large sum a gross breach of trust was being committed. It was asserted that the reason the gild had not long ago been prevented for their illegal perversion of funds was, that before 1641 the greater number of the members were Roman Catholics. For some little time after its affairs had been inquired into by the Council, and new brethren appointed under Council orders, the church services

had been properly maintained, and the church fabric repaired; but since the Rebellion, Roman Catholic masters and wardens were elected, who distributed the revenues among popish priests and the members of the fraternity, and allowed the college to become ruinous. They had been successful in concealing the nature and true value of a large portion of such revenues; and the plaintiffs sought that the defendants should be compelled to make discovery of the mears and bounds of the gild property, and that its original purposes should be carried into effect.

On 16th June, 1682, the principal defendants filed their answer, in which they furnished a general history of the gild from about 1620, pleading facts from their own point of view, and totally denying that they or their predecessors were bound to support the clergy and services of S. Audoen's. They affirmed that at the time the Council orders were being executed, the Commissioners carried matters with a very high hand, scourging the tenants by attachments and imprisonment. To show that there was no foundation for the insinuation in the Bill as to the principal officers having been Roman Catholics, a list of masters and wardens from 1638 was supplied,¹ from which it appeared that nearly all elected up to 1681 belonged to the Reformed faith. As to the college, the defendants did not believe that it was, either by the foundation or otherwise, designed for the accommodation of the said six priests, or that they ever belonged to the economy of S. Audoen's church. The remaining defendants also answered, but no decree appears to have been pronounced.

The Vestry Book of S. Audoen's, under date 24th June, 1684, records a meeting, at which a resolution was passed to the effect that the cause between the Prebendary of S. Audoen's and the gild of S. Anne should be left to the arbitration of his grace the lord Chancellor.² From a pamphlet on the case of the gild, among some papers in the Gilbert collection in the City Hall, it would appear that the officers of the fraternity so constantly and successfully evaded this reference to the archbishop, that in the end the matter fell through.

The last mention of St. Anne's gild that has come under my notice is a judgment³ on an inquisition of the Wide Streets Commissioners, Dublin, in 1824, as to the value of certain premises and the sums to be paid for interests in them. Under it the wardens, brethren, and sisters of the gild were declared entitled to £30, for the fee and inheritance of Nos. 3 and 4 S. Audoen's arch.

¹ Appendix II.

² Patent Roll, 5 Geo. IV.

³ Michael Boyle, archbishop of Armagh, formerly archbishop of Dublin.

APPENDIX I.

CALENDAR OF DEEDS OF THE GILD OF S. ANNE IN S. AUDOEN'S CHURCH.¹

[The current numbers in the margin are for convenience of reference. The numbers prefixed to each, and enclosed in brackets, are found on the originals. They refer to an abstract book of the documents belonging to the gild, compiled in 1772 by James Goddard, the clerk, in which they are numbered consecutively from 1 to 841.]

CHANTRY PRIESTS.

1. (63) Indented deed, dated 10 October, 18^o Edward IV.,
 10 Oct. whereby ROBERT DOVEDALL, knight, gives 100 marks to
 1478. THOMAS MULGHAN, merchant, master of S. Anne's gild,
 Walter Piers and William Crampe, wardens, to be disposed
 in merchandise. 1½*d.* for every 12*d.* increase² (*i.e.* increment or profit),
 by the hands of him that in that part shall be their merchant; and
 he or they in whose hands said 100 marks is, to receive the overplus
 of the increase of said 100 marks over said 1½*d.* of every 12*d.* yearly
 for ever. The gild to find two priests able to sing and pray for them
 in S. Audoen's church, such as grantor shall name in writing on the
 back of the Indenture remaining with said gild. The merchants
 to whom the 100 marks are delivered are to give security, if they die
 or give up the money, or salt and iron, at the price at which it was
 bought, and others that have goods in hands shall adventure not to
 part these goods over the sea, out of this land; and if any of said
 Robert's cousins or allies find sufficient surety for any part of these
 goods as above, they shall be preferred before any other.

If lands in the fields in a good part of the country may be
 purchased, that to be done.

After said Robert's death, the gild to see that the priests are to
 make a mind day for his soul the day he dies. The regular chaplains
 of said gild to be kept in addition to the two priests. [SEAL.]

¹ The following Deeds are in Latin:—Nos. 20, 21, 23, 25, 32, 35 to 44, 58 to 81, 83 to 85, 88 to 98, 101 to 103, 106, 113 to 118, 119, 120, 125, 128, 129, 130, 133 to 152 and 160. The remainder are in English.

² In the case of the religious gild of S. Mary at Cambridge, certain members took various commodities on loan, and at the end of the year paid for them, at the same time paying "increment," which thus seemed in the nature of interest on the loan.—*Cambridge Gild Records*, 1903, ed. by Miss M. BARNESON.

2. (64) Indenture dated 12 August, 3^o Henry VII.,
 12 Aug. whereby HARRY WHYTE, master of S. Anne's gild, John
 1488. Whyte and Richard . . . ,¹ wardens, grant to JOHN DROMYN,
 chaplain, 40s. yearly, to be paid quarterly during his life,
 charged on a messuage some time Thomas Walton's (or Wolton), now
¹ the gate of said John Dromyn and Simon Duff, chaplains, said
 Dromyn to have his table "competent" during the time he inhabits said
 messuage, which the gild is to keep in repair. The gild to find
 bread, wine, and wax; all according to the will and testament of
 said Thomas Walton. [SEAL.]

3. (72) THOMAS BIRMINGHAM, citizen and merchant of
 [10 May, Dublin, master of S. Anne's gild, sir Tade [Cor], chaplain,
 1512] and William . . . ,² wardens, grant to sir THOMAS CALE,
 chaplain, the service of a chantry priest in S. Audoen's
 church, to be exercised at the altar of S. Nicholas, or any other altar
 in said church, at the pleasure of said gild, at a salary of 53s. 4d. per
 year. The gild undertake to find him a mass-book, chalice, vestments,
 bread, wine, wax, &c.; also a chamber, and to furnish his table
 honestly, according to the degree of an honest priest. In default,
 a sum of 53s. 4d. yearly to be paid him. [Date illegible.] [Dated
 10 May, 1512, in Abstract Book, S. Anne's gild (Gilbert mss.).]

4. (71) Deed dated 4 October, 5^o Henry VIII., whereby
 4 Oct. NICHOLAS HERBART, of Dublin, merchant, master of
 1513. S. Anne's gild, sir Patrick Dowelyng, chaplain, and
 Henry Russell, merchant, wardens, appoint sir TADEW COR,
 chaplain, to be a chantry priest in S. Audoen's, at the altar of S. Anne's
 chapel, at a salary of 4 marks, and he to have his table honestly
 provided; also the chamber in S. Audoen's churchyard, which he
 now inhabits. The gild to provide all ornaments necessary for divine
 service. On their default, liberty to distrain on lands in Co. Dublin.
 Signed "Tadie Corr." [SEAL.]

"Notwithstanding thys grante, y^e cellere endyr y^e foresayde
 chamb^r ys exceptyth."

5. (66) Indented deed dated 20 March, 20^o Henry VIII.,
 20 Mar. between HENRY GADON, of Dublin, merchant, master of
 1529. S. Anne's gild, Nicholas Umfre, merchant, and sir Thomas
 Cale, chaplain, wardens, and RICHARD TALBOT, of Dublin,

¹ Torn.² Illegible.

merchant. Recites that said Richard had certain evidences, muniments, and writings made to him by Richard Sharp, son and heir of Thomas Sharp, late of Dublin, merchant, of certain messuages and lands in Dublin, all which he gave to said master and wardens, to remain in their custody, to the behoof of the said fraternity. The said Richard Talbot releases all his right in them on condition that every priest who shall do God service upon S. Anne's Rent in the church of S. Audoen shall yearly on the Sunday before the feast of S. Barnabe the apostle, keep his (said Richard's) obit, with solemn mass and *dirige* by plain song, in perpetuity. The bellman of said city for the time being to go the Saturday next before S. Barnabe's day, according to the old laudable custom, to the old station places appointed and limited within said city, to "bid" a *pater noster* and *ave* for the souls of said Richard, his wife, children, and their sequels, and such as they are bound to pray for, jointly and severally. If said priests, or any of them in time to come, do not well and truly keep yearly said obit, with the bellman going the Saturday before at the time appointed, except sickness "let" any of them, or for some other reason, then it shall be lawful to enter on the premises, and distrain for 5s. yearly rent, without any contradiction of the gild, the distress to be divided among poor people.

6. (68) Deed dated 28 September, 1531, whereby NICHOLAS 28 Sept. QWETTED of Dublin, merchant, master of S. Anne's gild, 1531. Thomas Phyllype and Henry Tayllor, wardens, grant to sir THOMAS MORE, chaplain, the service of a chantry priest, in St. Audoen's church, as at the altar of S. Katherine's chapel in same, as far forth as God shall give him grace and bodily health, at a salary of 4 marks a year. The gild to find him his table honestly, according to the degree of a priest, as well when he is sick as when he is whole, yearly and daily during his life, or four marks as he shall elect; also a chamber wherein he may lie, that is, the nearest chamber on the right hand next the entry, or coming in to Cromlyng,¹ which sir William Gafne had last, and which the master and wardens will not allow to become ruinous. The gild to find all necessary ornaments, also bread, wine, and wax. In their default, said sir Thomas to be at liberty to distrain on the gild premises in the city of Dublin or the county of the same.

¹ See p. 27; also Deed No. 124. This was the name of a messuage close to the steeple of S. Audoen's Church.

Memorandum ; agreed 17 April, 1536, that sir Thomas More shall have the uppermost chamber of the tower of Blakeney's Inns.

(*In dorse*).—" Sir Thomas More ys endentor of hys mortyfycacyon, and his chambor wth in Cromlon, and after his chambor wthin the toure."

7. (73) JAMES FITZSIMON, Dublin, merchant, master of
29 Oct. S. Anne's gild, sir Thady Cor, and sir William Druet,
1535. wardens, grant to sir THADY COR, chaplain, the cellar under his chamber, called S. Anne's workhouse (sir Thady's own house excepted), for 31 years at the yearly rent of 8s.

Sir Thady covenants to build a loft on part of said cellar, with a stairs to same, and to sustain said loft with a roof.

Dated 29 October, 27^o Henry VIII.

[SEAL.]

8. (65) Indented deed, dated 13 February, 1535,
13 Feb., whereby JAMES FITZSIMON, Dublin, merchant, master of
1535. S. Anne's gild, Mathew Godyng, and Clement Halman, wardens, grant to sir JAMES MORE, chaplain, the service of a chantry priest within S. Andoen's church, to sing at all services in said church, as at the altar of S. Clere in same, as far forth as God will give him grace thereto and bodily health ; to hold for life. Said sir James binds himself to the gild to sing diligently, &c., and to be obedient so to do at the request of the master and wardens, and that he will not depart from his post except on promotion to a benefice of greater value, nor to be absent without leave. He to receive a salary of 8 marks yearly, and to have the second chamber of the tower of Blaknye's Inns, that is, the chamber next to the vault, which the gild will not suffer to be ruinous. The master and wardens to find all manner of ornaments requisite to sing mass at said altar.

In case of the gild not fulfilling all, sir James may enter on all their lands in Co. Dublin for distress.

16 August, 1541. NICHOLAS BENNET, master, sir Henry Gawrane, and Henry Russell, wardens, gave to sir JAMES MORE, for his life, the new chamber built over the kitchen, with the little garden next the chancel, and portion of the great garden lying against said new chamber, which he hedged about with quick "frythe,"¹ he surrendering the second chamber of the tower. All other buildings that he intends

¹ Some writers say this includes all hedgewood, except thorns. Halliwell explains the word as a hedge or coppice.

to build within the precincts of St. Anne's Inns, the gild wills him to enjoy for life, as long as he dwells within said Inns. [SEAL.]

9. (67) Deed, dated 12 March, 1535, whereby JAMES 12 Mar., Ffzsymon, Dublin, merchant, master of S. Anne's gild, 1535. Mathew Godyng, and Clement Halman, wardens, grant to sir HENRY GAURAN, chaplain, the service of a chantry priest within S. Audoen's church, at all services in same, as at the altar of S. Thomas there; sir Henry binds himself to sing at Divine Service as far as his learning and "conyng" shall extend, and to be obedient to said master and wardens; not to depart out of service of said chantry priest during his life, except in case of promotion to a benefice, and then on special petition to them, nor to be absent without their leave. He to have a salary of 8 marks per year, and the fourth chamber within Blakeney's Inns, which the gild will not permit to become ruinous. The gild to find all ornaments necessary to sing mass. On their default, said sir Henry to be at liberty to enter into all the messuages and lands of the gild in Co. Dublin, and distrain. [SEAL.]

10. (75) The MASTER and WARDENS of S. Anne's gild, and 20 Oct., also the proctors and parishioners of S. Audoen's church 1540. appoint WILLIAM FYNNYN, clerk, to one of their clerkships in said church, which said William now occupies, and also a clerk within said church, with half-endeale of church cake,¹ bells, and "mind"² money, to hold for his life, at a salary of 7 marks, out of all the gild's lands, etc. He to perform the following services, viz.: to sing and read in choir daily at God's divine service; and every second week to bring, or cause to be brought, both fire and water; to ring the bells ("forforthe" the ring of said divine service); and to wait on the parish priest in visiting sick-folk in the parish. Dated 20 October, 32^o Henry VIII. [SEAL.]

11. (69) Deed dated 17 September, 37^o Henry VIII., 17 Sept., whereby (after reciting that William Queytrot, late of 1545. Dublin, merchant, in his will bequeathed to the gild of S. Anne a sum of money, which was bestowed on the College by the administrator of the said William) WALTER TYRRELL, of Dublin,

¹ The clerk here would be entitled to a half share in the profits on cake provided, with other things, on the commemoration days of deceased persons.

² The month's *mind*, or commemoration, is the mass celebrated for the soul of a deceased person at the expiration of a month after death.

merchant, master of said gild, Robert Goldyng and Walter Barby, Dublin, merchants, wardens, grant and agree with JAMES QUEYTROT, son and heir of said William, and bind themselves to keep the obit, or "mynde," of said William in S. Audoen's church, once every year during the world, that is, on the Sunday next after the feast of S. Bartylme, the apostle, in manner following; on Saturday afternoon *Dirige* by note, with five pryketts (tapers) of wax burning, and on the morrow after, a mass of requiem by note, with said five pryketts burning, at the cost of the gild. In case of default, power to enter and distrain. [SEAL.]

12. (70) Deed, dated 17 September, 37° Henry VIII.,
17 Sept., made between WALTER TYRRELL, Dublin, merchant, master
1545. of S. Anne's gild, Robert [Goldyng] and Walter Barby, wardens, and THOMAS STEPHYNS (or Stewyns), Dublin, merchant, and ALSON FITZSYMON, his wife, late wife to Alexander Bessyke, Dublin, merchant, deceased; whereby, after reciting that said Alexander Bessyke, by his will, left to S. Anne's gild money, which was bestowed by his executors on the College, said gild now binds itself to keep the obit or mind of said Alexander and Alson Fitzsymon, his wife, in S. Audoen's church, once every year, on the Sunday next after the feast of S. John the Baptist (that is), on Saturday at afternoon, *Dirige* by note with five pryketts of wax burning, and the morrow after, a mass of requiem by note, with said five pryketts, at the cost of the gild; in default, said Thomas and Alson to be at liberty to enter on the lands of the gild, until the master and wardens pay 20s., which is to be used by them at their will. [SEAL.]

13. (74) NICHOLAS UMFREY, Dublin, merchant, master of
28 Sept., S. Anne's gild, Walter Barby and Clement Halman,
1546. wardens, grant to ROBERT FITZSYMON, clerk, an annuity or annual rent of 8*l.* out of all the gild's lands, &c., in Dublin city or elsewhere in Ireland, for his life, in part payment of his salary for services in the church of S. Audoen, in singing and playing at the organs (if said Robert be in bodily health) at all services, principal feasts and holy days, and on "feryall" days only at Mary Mass and anthem and Jesu Mass on the Friday. It shall be sufficient that the sexton of said church being found and appointed by said Robert, and the other clerk assigned and "waged" in said church, shall exercise

¹ See No. 22.

and use the office of carrying of Holy water, and waiting on the curate in visiting all sick-folk, within the parish, in discharge of said Robert at all such times. Said Robert to have during life yearly half the profit of the bells and of the church-cake; that is, half what pertains to the clerk of said church in times past.

Dated 28 September, 38° Henry VIII.

14. (81) NICHOLAS UMPFREE, of Dublin, alderman, master
1 Oct., of S. Anne's gild, Clement Halman and Walter Barby,
1546. wardens, appoint sir THOMAS GAFFNEY, of Dublin, chaplain,
a chantry priest in the church of S. Audoen, as at the altar
of S. Anne there, at a salary of 8 marks, with the third chamber of the
gallery of Blackney's Inns, next from the church (with the clauses in
similar deeds as before).

Dated 1 October, 38° Henry VIII.

[SEAL.]

15. (84) NICHOLAS WMFFREY, Dublin, merchant, master of
9 Jan., S. Anne's gild, Clement Halman and Walter Barby,
1547. wardens, appoint sir SYMON CARPINDER, chaplain, a chantry
priest in the church of S. Audoen, at the altar of the
B.V.M. there, at a salary of 8 marks (with the usual clauses and
conditions).

Dated 9 January, 1546.

[SEAL.]

16. (62) NICHOLAS WMFFREY, of Dublin, merchant, master of
26 Aug., S. Anne's gild, George Brune, chaplain, and Walter Barby,
1549. Dublin, merchant, wardens, grant to sir JOHN ROCHE-
FORDE Dublin, chaplain, the service of a priest, which sir
Henry Gaurane lately held, namely, to sing and serve all divine
services which have to be served in S. Audoen's church, as well in the
choir as other places; also a chamber in Blakeney's Inns, wherein
sir Henry dwelt. To hold for life, as well in sickness as in health, at
a salary of 8 marks, to be paid quarterly. The gild to find all orna-
ments for service, with bread, wine, and wax, and other necessities.
In default of payment of salary, said sir John to have liberty of
entering on all the gild's lands in the city and suburbs of Dublin.
The gild to keep in repair and maintain the chamber.

1d. paid sir John by way of possession of his salary, and seisin
given him of his chamber.

[SEAL.]

Dated 26 August, 3° Edward VI.

(*In dorso*).—"The annuities of the ministers."

17. (76) HENRY PLUNKETT, of Dublin, alderman, master of
 18 June, S. Anne's gild, sir George Brune and John Wallyngford,
 1552. wardens, appoint sir Nicholas Cor, of Dublin, chaplain, a
 priest in S. Audoen's church, to sing and read at all
 services in the church; he not to depart from his post, except on
 promotion, nor be absent without leave. Salary 8 marks, with an
 honest chamber within the house of Blackenye's Inns.

Dated 18 June, 6° Edward VI.

[SEAL.]

18. (78) THOMAS FITZ SYMON, Dublin, alderman, master of
 30 June, S. Anne's gild, Patrick Mey, Dublin, merchant, and sir
 1564. George Brune, chaplain, wardens, appoint Thomas
 Caddell, chaplain of S. Audoen's church, to the service of a
 chantry priest in said church, to sing at all divine service; to hold for
 life, he to be obedient, not to depart or be absent, &c. (clauses as in
 previous grants). Salary 8 marks yearly, with convenient table or
 board daily, and a chamber convenient for a priest.

Should the gild be in default, said Thomas Caddell to have liberty
 to enter on their lands in the city or county of Dublin, and distrain.
 Dated 30 June, 6° Elizabeth.

(*In dorso*).—The 28 pieces were perused by Mr. Alexander and Mr.
 Atherton¹ by order from the Councill table, 10 July, 1634.

19. (80) Deed, dated 1 July, 6° Elizabeth, whereby (after
 1 July, reciting that Nicholas Umfrey, late master of S. Anne's
 1564. gild, Clement Halman and Walter Barby, wardens, by deed
 dated 1st October, 37° Henry VIII. (1545), granted to sir
 George Brunne, chaplain, the service of a chantry priest for life, at a
 yearly salary of 10 marks), THOMAS FITZ SYMON, of Dublin, alderman,
 master of S. Anne's gild, sir George Brune and Patrick Mey, wardens,
 grant to EDWARD FITZ SYMON and GEORGE TAYLOR, gentlemen, as
 trustees, in consideration of the faithful service of said sir George
 Brune done as chantry priest, 4*l.* 6*s.* 8*d.* for life, for the use of said
 sir George Brune, by way of augmentation of his salary; also the east
 chamber next the garden, wherein sir James More lately dwelt, and all

¹ In 1640, Atherton, who became Bishop of Waterford, was hanged in Dublin
 for a criminal offence. He had been previously chaplain to Lord Strafford.
 A curious account of his last days, and a sermon preached at his burial, were
 published by Dr. Bernard, the biographer of Ussher.—*Lecky's Ireland in the
 Eighteenth Century*, i. 207.

the rooms and places thereof, for the life of said sir George Brune. The gild make John Lampken, of Dublin, merchant, attorney to enter and take possession on behalf of said Brune.

INVENTORIES AND TESTAMENTS.

20. (303) INVENTORY of the goods of JOAN, daughter of 22 May, WILLIAM DOUCE, made at Dublin, 22 May, 1381.

1381. A messuage and two shops in S. Audoen's parish, 40*l*.

Two shops which Roger Falliagh and Thomas Savage hold in same, 10*l*. A messuage (with two cellars beneath) which Richard Chamberleyne dwells in, in the parish of S. John "abothē-stret," 50 marks. A shop, with a garden in the Scarlet-lane, 4 marks. Four shops, with a garden, in S. Francis-st., 10 marks. Three shops in S. Thomas-st., opposite S. Catherine's church. Two shops in same street, roofed with tiles, which she wishes Richard Glasewryght to have for ever. A brass pot, 5*s*.; a stone house and messuage in Kisher's-lane, and two selds in the corner of same, in the east side, which she wishes William Decer to have for ever; a stone house, with garden and solar, on the west side of said lane, which said William is also to have; a solar, with a watery cellar beneath, and three selds, with porch and solar, in the Cooks'-st. parish of S. Audoen, which said William is also to have.

TESTAMENT of said Joan Douce.

To be buried in the church of S. John without the New Gate. She bequeaths as follows, to the altar of S. Audoen, 10*s*.; S. Mary's altar in said church, 10*s*.; John Walsch, chaplain, 40*d*.; Robert Logh, chaplain, 40*d*.; each chaplain in S. Audoen's church, 12*d*.; the abbess and nuns of the Hogges, for their works, 1 mark; the works of S. James', Dublin, 5*s*.; towards feeding the sick of S. John's without the New Gate, 20*s*. The four mendicant orders, by equal portions, 40*s*. The works of S. Olave's, Dublin, half a mark. The works of S. Nicholas', Dublin, and for the bell of said church, 40*d*.; the sick of S. Stephen's, Dublin, 5*s*.; the prisoners in the castle, 40*d*.; the prisoners in the town prison, 18*d*.; the prisoners in the Tholsel, 12*d*. Towards making the bridge of Rathfarnham, 1 mark; the two parish clerks of S. Audoen's church, by equal portions, 2*s*.; John, the clerk, and his sister, 2*s*.; the priest in S. Sepulchre's prison, 2*s*.; the cripple who lies opposite Nicholas Seriaunt's inn, 12*d*.; brother John Barby, 40*d*.; the four scholars in S. Audoen's church, 2*s*.; Henry Seman,

12*d.*; Nicholas Forman, 12*d.*; James Nasshe, chaplain, 10*s.*; Adam Piers, chaplain, half a mark; John Monteyn, 18*d.*; Anyn., 2*s.*; Alice Gadby, 40*s.*; Amoe Cruys, 2 marks; the works of S. Brigid del Poll, half a mark; the works of the Friars Minors, Dublin, 20*s.*; the works of S. John's church without the New Gate, Dublin, half a mark; the works of Holy Trinity, Dublin, half a mark; the works of the Carmelite Friars, Dublin, half a mark; the works of the Augustinian Friars, Dublin, half a mark; the works of the Friars Preachers, Dublin, half a mark; good wife Waterfeld and her children, 2*s.*; William Walsch and Margery, his wife, 4*s.*; William Decer, 40*s.*; Brother David Meson, 40*d.*; John Key, her servant, half a mark; the son of Henry Fox, 2*s.*; the son of Richard Martyn, 2*s.*; William Decer, a brass pot, worth 5*s.*; she appoints Richard Chamberleyn and Roger Falyagh, executors.

21. (93) INVENTORY of the goods of RICHARD CODDE, citizen
20 Dec., and baker, of Dublin, made there on Saturday next before
1438. the feast of the Nativity, 1438. In money by tale, 4*l.*; a
maser, a nut, and four pieces of silver worth 3*l.*; twelve
silver spoons, 20*s.*; 6 silver spoons, 6*s.*; divers vessels of brass and
lead, 6 marks; pewter vessels, 6*s.* 8*d.*; ewers and basins, 10*s.*; a
hauberk and a visor, 10*s.*; a sword-belt,¹ 4*s.*; divers necessities for
the bake-house, hall and chamber, 13*s.* 4*d.*; corn and meal, 20*s.*; a
crannoc of malt, 10*s.*; three swords, 6*s.*; a hogshhead and two barrels,
20*s.*; a brass pot, 13*s.* 4*d.*; a skiff, 13*s.* 4*d.*; sum 17*l.* 8*s.* 4*d.*

Debts due to said Richard Codde.

The lord archbishop of Dublin for bread, 10*l.*, of which testator
remits 40*s.*, so that the said lord archbishop may be favourable to
Joan his wife. Thomas Cusak, deceased, on a girdle and a covered
piece of silver, 5 marks. Richard Walshe, tailor, on a cup and 8
silver spoons, 20*s.* Stephen Sale, on a piece of silver, 16*s.*; Joan
Clynton, on a piece of silver, 4*s.*; and a silver goblet, 3*s.* Robert
Olanon, on a silver cover, 4*s.*; the wife of Peter Sewardby, on a
girdle, 6*s.* 8*d.*; Martyn Brabane, on a set of beads, 12*d.*; Margaret
Brigham, on a spoon, 12*d.*; a man from the March on a hauberk, 5*s.*;
John Wafre, on 2 hauberks, and a dagger and girdle, 18*s.* (not worth
10*s.*); the wife of John Gardener, on a brass pot, 16*s.* 4*d.*; Hugh
Herdman, on a set of coral beads, 13*s.* 4*d.* (not worth 10*s.*); Robert

¹ *Stroffe* (stropheum, a girdle).

Gallane, on a brass mortar, 8s. ; Alice, his wife, 5s. 8d. ; John White, on the Key, tailor, on a hauberk and doublet, 4s. ; Thomas Fedane, 5s. 8d. ; the prior of the Church of the Holy Trinity,¹ for bread, 4s. 8d. ; Rose, wife of William Awbrey, for bread, 23s. ; Joan Abbey, for bread, 13s. ; Margaret, wife of Thomas Hoper, 20s. ; Katherine, wife of Richard Pyper, of Howth, 5s. ; Richard Bygdon, of Howth, 5s. ; Nicholas Clerke, for bread, 13s. 4d. ; Margaret, wife of Cokesson, 8s. ; Walshe, the glover's wife, 12d. ; Emota Courragh, 4s. ; the wife of the clerk of S. Michan's, 12d. ; Patrick Symonesson, of Wicklow, for bread, 4s. ; John Symon, of the same, 12d. ; Shane McGuyerrrel, on a brass pot, 2s. ; Thomas Newbery, for bread delivered to the Spaniards, 11s. ; Patrick Rothe, of Wicklow, 12d. Sum 23*l*.

The debts which said Richard owes to others—Thomas Chamer, 16*l*. ; Anstace Howe, 5s. ; the executors of Thomas Goldesburgh, 6s. 8d. ; Robert Sclavane, 3s. 4d. Sum 16*s.* 4*d*.

Portion of the deceased, 19*l.* 16*s.*

TESTAMENT : To be buried with his children beneath the "grounde-sill" of the chapel of S. Anne in S. Audoen's church. The rector of said church for forgotten tithes, 6s. 8d. ; a priest to celebrate for his soul for a year, 6 marks ; the four orders of Friars, Dublin, 13*s.* 4*d*., to be equally divided ; a meal to the poor of S. John, Dublin. For repair of S. Audoen's belfry, 20*s.* ; Robert Walshe, his exhibition for two years in the schools, 4 marks. For repair of the church of S. Thomas the Martyr, Dublin, 6*s.* 8*d*. ; his best clothes, to make a suit to be given to the most needy person of the church. His terms of apprentices to Joan his wife. To his said wife, (and Walter, son of Thomas Codde, his term and estate in the bake-house which he holds. The tenement in Bridge-street, Dublin, wherein he dwells, to his said wife for life, with remainder to said Walter Codde, and the heirs of his body ; should he die without such, to the brethren and sisters of the fraternity of S. Anne within S. Audoen's church, for support of a chaplain to celebrate for his own and his wife's soul, &c. Should the prior and convent of Holy Trinity, Dublin, wish to prove that they ought, in justice, to have a yearly rent of 6*d*. out of said tenement, then they are to forgive him and his feoffees the arrears thereof ; whereupon the said feoffees are to give to the said prior and convent security for receiving such rent yearly for ever. The residue of his goods to his said wife, so that she, with advice of John Chillam, his other executor, may give thereout a reward to said Walter. John

¹ William Denis, prior 1438–1459.

Chillam and testator's said wife to be executors. Witnesses, Thomas Squyer, chaplain, Hugh Chillam, and others.

He leaves all his lands, messuages, and tenements in the town of Clone (Cloyne),¹ and elsewhere in the co. Cork, to Walter, son of Thomas Codde, his brother, in fee.

Proved before Master Richard Talbot, commissary general of Richard Talbot, archbishop of Dublin, in the cathedral church of S. Patrick, Dublin, 12th Jan., 1488, and probate granted to the executors. Sealed with the seal of the commissaryship.

(*In dorso*).—"The dedys of y^e house y^e Waltere Ewstace² dwellith in y^e bridge street, and of y^e annuall rent y^e crychurche deyth chaulanche."

22. (831) Will of ALEXANDER BESWICK, merchant, dated 1533. To be buried in S. Clere's chapel, in S. Audoen's church. The proctors of the church to pay the arrears of their wages to the Mary priest and clerk there, for service for his soul at S. Clere's altar. He establishes a perpetual obit³ for himself and Alson Fitzsymon, his wife. 40s. to sir James More, chaplain of S. Audoen's, to pray for him. Leaves 4l. 3s. 4d. to the proctors . . .⁴ to the poor people of Manchester parish . . .⁴ honest priests to sing at S. Clere's altar for four years, each to have 8 marks. The poor to have bread at his burial to the value of 5^d. Mentions Henry Gee of Westchester, merchant, and Edward Abarte of Manchester. His mother-in-law to have a scarlet kirtell cloth. James Abarte and Katherine . . .⁴ 20s. Mentions his five children and his brother, William Beswicke. Appoints his wife and son, William Beswicke, executors, and Nicholas Queytrot, overseer.

The document is an exemplification of the above by Robert Fitzsymon, official of the court of Dublin (*sede vacante*⁵) made at the request of the gild of S. Anne and the proctors of S. Audoen's.

¹ See Pipe Roll of Cloyne diocese, *cir.* 1364, ed. Dr. Caulfield, in which there is frequent mention of the Codde family, which had been settled in the vicinity of Cloyne from very early times.

² Lease of premises in Bridge-street to Walter Eustace, A.D. 1315. (*Christ Church Dead*, No. 1122).

³ See No. 12.

⁴ Illegible.

⁵ The See of Dublin was vacant between 28 July, 1534, and 12 March, 1534/5.

[The greater part of this document is illegible from the effects of damp.]

The abstract book of S. Anne's Deeds (Gilbert MSS.) notes the following wills as having been in the collection, in addition to the above, in 1772 :—

Alice Beke, 1406.

William Decer (no date given).

William Dounce, 1341.

Thomas Rowe, 1471. (He bequeathed money to the altar of S. Thomas).

William Stede, 1534. (He bequeathed 3s. 4d. charged on lands in Leixlip, for a perpetual obit.)

John Stretch, 1425.

GILD PROPERTY IN THE CITY OF DUBLIN.

BLAKENEY'S INNS.

23. (552) JAMES FITZSYMON, Master of S. Anne's gild, Thady 10 Feb., Cor and William Druet, chaplain, wardens, and Nicholas 1534. Queytrot, citizen, and the gild generally, in consideration of a certain sum paid by James Blakeney of Rykynhore, gentleman, and of a certain deed of Bargain and Sale of a tenement called Blakeney's Inns, with a turret and garden, in the parish of S. Audoen to them made by him, grant to said JAMES BLAKENEY all their right in Saucereston, near Rykynhore, in the parish of Swords, for ever. Grantors make William Queytrot their attorney to place him in possession.

Dated 10 February, 1534.

[SEAL.]

24. (83) THOMAS BARBY, merchant, of Dublin, master of the 20 Apr., gild of S. Anne, Mathew Goodyng, and Clement Halman, 1537. wardens, grant to sir JAMES MORE, chaplain, a piece of ground sometime void, now altered to a garden, lying within¹ the north part of S. Audoen's chancel, in length from the extreme part of the north part of said chancel, to the new gallery that joins to the church door, and in breadth unto the stone wall that said sir James made at his own costs; to hold for life, paying to the master

¹ So in original.

and wardens 2*d.* at Easter in every year. Should he be promoted, then he is to cease to have any interest in the garden.

(*In dorso*).—Sir James More's Indenture upon the little garden in the college.

Dated 20 April, 28° Henry VIII.

25. (555) Lease from NICHOLAS QUEYTTROT (or Quayttrode), 29 Sep., of Dublin, merchant, to ROBERT GOLDYNGE, Dublin, merchant, of the "myche syller" under Blakeney's Inns, on the north side of the great door entering to said Inns, for 61 years, at the yearly rent of 13*s.* 4*d.*

Dated 29 September, 30° Henry VIII. [SEAL.]

(*In dorso*).—Provided always that if the priests of S. Audoen's church keep residence, that then said Robert wills that they have the little "syller" under the little "buttre," this lease notwithstanding.

26. (79) TADEE DOUFFE, Dublin, alderman, master of the 8 July, gild of S. Anne, sir George Brune, chaplain, and John 1554. Wallingeforde, Dublin, merchant, wardens, grant to THOMAS ROGERS of Dublin, alderman, the largest garden or plot of ground within the close or precinct of S. Audoen's college, sometimes called Blackney's Innes, for a term of 41 years, at the yearly rent of 13*s.* 4*d.* Said Rogers and his assigns to have free egress and regress to said plot through the great door entering into said college, the court or bawn within same, and the door of same garden or plot adjoining to said court and bawn, at all times, on condition that if said college be established and put up again during the said term, then on half-a year's warning, this lease to be void.

Dated 8 July, 2° Mary. [SEAL.]

27. (86) Lease, dated 6 August, 2° Mary, from TADE DUFFE, 6 Aug., Dublin, alderman, sir George Browne, chaplain, and John 1554. Wallingford, merchant, master and wardens of S. Anne's gild, to PATRICK GIGEN and THOMAS VERDON, Dublin, merchants, of a great cellar within the precinct and circuit of S. Audoen's college, now occupied by them, which bounds to said church on the south, the entry or gate of said college on the north, the pavement on the west, and the garden occupied by John Wallingford on the east, to hold for 41 years, at the yearly rent of 30*s.* (Signed) PATK. GYGENE. [SEAL.]

28. (88) Lease, dated 24 October, 10° Eliz., from NICHOLAS 24 Oct., FITZSYMON, Dublin, alderman, master of S. Anne's gild, 1568. sir George Brune, chaplain, and Patrick Gygon, wardens, to RICHARD GALTRIME, of Dublin, alderman, of a little cellar called the Kitchen, in the east end of the great hall within the college, now in his occupation. To hold for a term of 61 years, at the yearly rent of 6s. 8d. [SEAL.]

(*In dorso*).—"Indenture on the kitchen within S. Audoen's college."

29. (77A) Indenture, dated 20 September, 1569, whereby 20 Sept., NICHOLAS FITZSYMONS, of Dublin, alderman, master of 1569. S. Anne's gild, sir George Browne, chaplain, and Patrick Gygene, Dublin, merchant, wardens, grant to THOMAS WERDOME (Verdon), Dublin, merchant, the largest and greatest garden, or plot of ground, being within the close or precincts of S. Audoen's college, sometime called Blakney's house, for a term of 61 years, at the yearly rent of 15s.

Thomas Werdon, as occasion requires, to allow ladders to be placed in said garden for covering the chamber which sir George Browne now has, during said term. [GILD SEAL.]

30. (77B) Counterpart of No. 29, executed by Thomas Verdon.

31. Lease, dated 20 February, 1593, made by WALTER 20 Feb., SEDGRAVE, alderman, master of S. Anne's gild, Mathew 1593. Handcocke, of Dublin, Alderman, and Laurence Enos, wardens, to JOHN WESTON, son and heir of Nicholas Weston, alderman of Dublin, of two cellars within the close or precinct of S. Audoen's college, sometime called Blackney's Inns, in the occupation of Nicholas Queytrod, merchant; also said college hall, with the lofts and a chamber called sir George Brune's chamber, and other chambers, with "butter" adjoining to said college hall, and one little garden on the north side of the chancel of S. Audoen's Church, now in the occupation of Nicholas Whitrell, clerk, and one old Kitchen, bounding in the east to said college hall, under said sir George's chamber. To hold for 61 years all the premises, save the old Kitchen, and that for 61 years from the end of a lease to Richard Galtrim, late of Dublin, deceased, at the yearly rent of 3s. 4d. for the former, and 6s. 8d. for the latter.

The original, signed in presence of Nicholas Weston, John Tirrell, John Luttrell fitzThomas, Patrick Mey, Nicholas Queytrod.

(*In dorso*).—Mary Cooper, *alias* Weston, widow, and surviving executrix of John Weston, lessee, in consideration of £20 paid by the gild, surrendered the old Kitchen, and other particulars in said lease. (No date.)

“These nine pieces were perused by Mr. Alexander and Mr. Atherton, by order of council, 10 July, 1634.”

32. (554) NICHOLAS QWATTROD, Dublin, merchant, releases 22 Feb., to WALTER SEDGRAVE, Dublin, alderman, master of S. Anne's 1593. gild, Mathew Handcock, alderman, and Laurence Enus, clerk, wardens, Blacknes Ins, near S. Audoen's church, in possession of said gild. Dated 22 February, 1593. Witnesses, Nicholas Weston, John Birrell, John Luttrell fitzThomas. [SEAL.]

33. (54) Lease, dated 4 April, 1598, whereby (after 4 April, reciting that Walter Sedgrave, late master of S. Anne's 1598. gild, Mathew Handcock, alderman, and Laurence Enose, clerk, wardens, had on 30 October, 1593, demised to John Sedgrave, son and heir of said Walter, the great garden, within the close or precinct of S. Audoen's college, sometimes called Blackneis Innes, joining to Rame-lane in the east, then in the occupation of said Walter for a term of 61 years from Easter, 1630, at a yearly rent of 16s.; and further reciting that said John and Walter have granted said term to Nicholas Ball, Dublin, alderman, and said Nicholas Ball having lately expended about £300 in building a great house on same ground), MICHAEL CHAMBERLENE, Dublin, alderman, master of the said gild, John Tirrell, alderman, and Richard Gerrot, merchant, wardens, grant to said NICHOLAS BALL the said premises for a term of 99 years, at the yearly rent of 16s. Witnesses, Nichs. Weston, Mat. Handcock, Edmond Purcell.

BRIDGE STREET.

34. (95) Lease, dated 23 February, 36° Eliz., made by 23 Feb., WALTER SEDGRAVE, Dublin, alderman, master of S. Anne's 1594. gild, Mathew Handcock and Laurens Enos, wardens, to JAMES JANS, mayor of Dublin, of a messuage with all shops,

cellars, &c., in the Bridge-street, lying between said street towards the east, and the stone wall of said city towards the west, and in breadth, between John Rocheforde's house, sometime Seriante's inheritance, Barnewall's lands towards the south, and Christopher Cosgrave's house, being also lately Barnewall's inheritance towards the north. To hold for 91 years, to begin from the end of a lease granted to Francis Harbard, late deceased, at the yearly rent of 40s.

(Signed), JAMES JANS.

Present when James Jans, mayor, delivered these presents to Gerald Delahide, to be given to the gild:—Rich. Bellyng, Rich. Brandon, Rych. Brown.

Present when said Gerald delivered them as the deed of Jans:—Nich. Weston, John Tirrell, John Luttrell fitz Thomas, Patk. Mey, Nich. Quaytrod. [SEAL.]

BULLRING¹ (NEAR THE).

35. (545) WILLIAM, son of ROGER ASSHEBORNE (after 6 Dec., reciting that by deed of 2 August, 7° Henry IV. (1406), 1406. he had granted to John Stafford, citizen and baker, Dublin, a messuage lying near the Bulryng in said city, between the messuage of the Prior of S. John the Baptist on the east, and the messuage of Robert Burnell on the west, for the life of Nicholas Wodere and others), ratifies to said JOHN STAFFORD said possession and one week further, and to said Nicholas and others, a term of 42 years after the date of said first-mentioned deed, they rendering a rose yearly on S. John the Baptist's feast.

Dated 6 December, 8° Henry IV.

[SEAL.]

36. (544) RICHARD MAREWARD, knight, baron of Scryne, 4 Mar., releases to NICHOLAS DOWDALL, citizen and merchant, 1454. Dublin, a messuage in the parish of S. Audoen, lying near le Bulryng, in breadth between the land of Henry Eustace on the east, and the land of S. John the Baptist's Hospital

¹ An iron ring in the Corn Market, to which bulls were fastened for baiting.

without the New Gate on the west, and in length from the highway on the north to the wall of said city on the south.

Dated 4 March, 32° Henry VI.

[SEAL.]

(*In dorso*).—On house of John Gryffyn, near the high pipe, city Dublin.

COOK STREET.

37. (580) Agreement made at Dublin, on Friday next 8 Feb., after the Purification of the B. V. M. in the 19th year of 1326. King Edward, son of King Edward, between MATTHEW BATHE, John de Kyrdif, Thomas de Colechester, and John de Notyngnam, GUARDIANS OF WILLIAM, SON OF ROBERT DE NOTYNGHAM, on the one part, and JOHN DE CARLETON and JOAN, HIS WIFE, on the other. It recites that said William has a certain place of land contiguous to the land of said John de Carleton and Joan, his wife, in Cook-st. towards the west, in breadth from the "groundsille" of said William's house in said street towards the east, by the space of half a foot and quarter of a man's foot, up to the land of said John and Joan, and in length from said street in front up to the land of said William, which Thomas Turmyng holds, in the rere.

The said Carletons are granted leave to raise a stone wall on said place, contiguous to the place of said John and Joan, namely, up to the "resoun"¹ of the wall of said William's house, which "resoun" will lie above said wall; also to build upon half the wall towards his land, and to have their easements thereof, without contradiction of said William, his heirs and assigns for ever. In addition, the said Carletons allow said William to build on the other half of said wall, towards their said messuage, and to place corbels in the said wall, for the support of his said house, and to have their easements therein, without contradiction of said John and Joan, for ever. They also agree that they, their heirs and assigns, at their own costs, will carry away the water dripping down above the whole of the said wall, and find gutters for this purpose, whenever necessary.

(*In dorso*).—"Mey is house in the Cooke-st."

¹ *Rasen*, in timber buildings, is that piece of timber to which the bottoms of the rafters are fastened.

38. (565) WILLIAM ASSHEBORNE releases to JOHN WALSH, 18 July, citizen of Dublin, his right in a waste place in the parish of 1404. S. Michael, Dublin, lying in length from Cook-street on the north to an old wall on the south; in breadth from the lane called the Ram-lane on the west to the tenement of Nicholas Wodere on the east. Dated Friday next before the feast of St. Margaret the Virgin, 5° Henry IV.

39. (567) Grantor in No. 38, makes John Elys his attorney, to place grantee in possession of the premises. 12 Sept.,

1404. Dated Friday next after the feast of the Nativity of the B.V.M., 6° Henry IV.

40. (566) Release of the premises in No. 38. 13 Sept., Dated Saturday next after the feast of the Nativity of 1404. the B.V.M., 6° Henry IV.

41. (116) NICHOLAS FYNGLAS, citizen of Dublin, holding 10 Aug., for term of his life two shops in Cook-street, in the parish 1416. of S. Audoen, Dublin, between the tenement of John Falyagh to the east, and the tenement of the abbot and monks of S. Mary, Dublin, to the west, as in breadth, and extending from said street towards the north to the cemetery of S. Audoen on the south, the reversion in which belongs to John Moll, chaplain; and said Nicholas Fynglas having granted said shops to Roger Fleming, Geoffrey Wale, John Ingoll, and Richard Ectot, chaplains, for his term, namely, that of his life, said JOHN MOLL quits claim. Dated 10 August, 4° Henry V.

(*In dorso.*)—Deed of 2 shops in Cook-street, Dublin, lately of Geoffrey More.

42. (539) JOHN CRISTOFRE, chaplain, grants to JOHN 1 Nov., WALSH, citizen of Dublin, 13s. 4d. rent out of a stone 1424. house containing a cellar, a solar, and an upper solar, called "le wochose" (the watch-house) in Cook-street, parish of S. Audoen, between the land formerly of Richard Glaswright, on the one side, and the garden of John Ingoll on the other, towards the west, and the tenement of Thomas Grampe towards the east. . . .
¹ Dated 1 November, 3 Henry VI.

¹ Torn.

43. (61) **ISMAY VALE**, of Dublin, **WILLIAM FRANKHOME**, of **10 Feb.**, Swords, and **KATHERINE**, his wife, grant to **JOHN GEYDAN**, **1459.** of Dublin, miller, three shops, one gallery, and garden annexed, being parcel of five shops in Cook-street, parish of **S. Audoen**, extending from said street towards the south up to **Colmansbroke** towards the north; and from land lately **Robert Gallane's** towards the west, to two shops on the east. To hold for the life of **Thomas Bellewe**, **John Bellewe**, **Geoffrey Sale**, **John White**, **John Blake**, and **John Bron**, and should they die within 30 years from this date, then grantee to hold up to the end of said term of 30 years, at the yearly rent of **4*d.***, silver.

Dated 10 February, 37° Henry VI.

43B [The following Deeds, connected with the property of **S. Anne's gild**, are enrolled in Patent Roll (Chancery), 28° Elizabeth, (1585), m. 10, viz. :—

29 Sept., (19) Lease, dated 29 September, 23° Henry VIII., from **1531.** **NICHOLAS QUERTROT**, master, **Henry Tailor**, and **Thomas Phillips**, wardens, to **HENRY MOLE**, of Dublin, yeoman, of a house, &c., in the Cook-street, Dublin, joining to **Thomas Barbie's** land on the east, the house of **S. Anne** on the west, the lands of **James Blackney** on the south, and the King's highway on the north, for 31 years. Rent, 13*s.* 4*d.*

29 Sept., (21) Lease, dated 29 September, 38° Henry VIII., **1546.** from **NICHOLAS WMFREY**, master, **Walter Barbie**, and **Clement Halman**, wardens, to **WALTER BARBIE**, Dublin, merchant, of a house in Cook-street, Dublin, for 61 years, from 29 September, 1562.

13 Oct., (20) Release, dated 13 October, 1559, by **GEORGE BRUGES** **1559.** and **KATHERINE FITZSIMONS**, his wife, administratrix of **Katherine Moore**, late of Dublin, widow, mother of said **Katherine** (reciting the preceding terms, which came to **Richard Fitzsimon**, commonly called **Richard Stanton**, late of Dublin, yeoman, deceased, husband to said **Katherine More**), to **NICHOLAS GARDENER**, of Dublin, gentleman, in consideration of £50, of the premises in the foregoing deeds mentioned, for the whole term therein granted.

12 Aug., (22) Lease, dated 12 August, 4° Eliz., from **WALTER** **1562.** **BARBY** to **NICHOLAS GARDENER**, of a void piece of ground, with a little chamber built on a little piece of the same, now

in said Gardener's occupation, abutting on S. Anne's ground on the east, Cook-street on the south, a tenement of widow Coyle on the west, and the ground of S. Owyn's church on the north, to hold for the life of Margaret Barby, daughter and heir of one Thomas Barby, deceased. Rent, 12*s.* yearly.

If said chamber be found not to appertain of right to same, lessee to pay but 6*s.* rent.]

44. (569) NICHOLAS FITZSYMONS, alderman, Dublin, master 21 May, of the gild of S. Anne, George Bruyne, chaplain, and 1571. Patrick Gigen, Dublin, merchant, wardens, grant to master HENRY BROWNE, alderman, and JOAN QUEITROT, his wife, a messuage or tenement in Cook-street, in which said Henry and Joan now dwell, extending to the lane descending from S. Audoen's church to Cook-street on the east, and to the land of the house of nuns, commonly called le Hogges, on the west, to the cemetery of S. Audoen's church on the south, and Cook-street on the north. To hold in fee-farm for ever. Rent, 3*l.* Grantors also make John Lamken, Dublin, their attorney, to place grantees in possession. [SEALS.]

Dated 21 May, 1571.

(*In dorso*).—The ould fee-farme of Andrew Clerke's house in Cooke-street.

45. (56) Lease, dated 10 November, 1593, from WALTER 10 Nov., SEDGRAVE, master of S. Anne's gild, Mathew Hancock, and 1593 Laurence Enos, wardens, to THOMAS FITZSYMONS, alderman, (after reciting a lease made by Robert Golding, late master of S. Anne's gild, Richard Galtryme, and Thomas Verdon, late wardens, dated 9 January, 1559, to Thomas Howard, merchant, of a messuage in Cooke-street (as in No. 46) for 61 years, from the termination of a former lease granted by James Fitz Symon, some time master of said gild, Mathew Goodinge, and Clement Halman, wardens, by deed of 29 September, 28^o Henry VIII. for 31 years), by which they grant him said premises, to hold from the end of said 61 years (to Howard) for a term of 61 years. Rent 13*s.* 4*d.* (Signed), THOMAS FITZ SYMONS.

(Endorsed).—"Ends in 1690."

46. (55) Lease, dated 18 September, 1601, MICHAEL CHAM- 18 Sept., BERLIN, Dublin, alderman, master of S. Anne's gild, John 1601. Tyrrell, alderman, and Richard Gerrote, merchant, wardens, to MATHEW HANDCOCK, of a house or tenement in Cooke-street, parish of S. Michael, now occupied by assignees of Thomas

Fitzsymons, alderman, deceased, in breadth from S. Anne's ground in the east to Ram-lane in the west; in length from Cooke-street north to Gaydowne's land in the south; for 61 years, from the end of Fitzsymons' lease; rent, 17s. 8d., Irish; 3s. more than the old rent.

Witnesses, Edm^d. Purcell, H. Stephins, John Goodwyng, Xpofer fitzwilliams. [SEAL.]

(Endorsed).—"Ending 1690."

47. Duplicate of No. 46. This deed surrendered, and a 18 Sept., 1601. fee-farm granted to Mrs. Whitshed (see No. 56).

48. (105) MICHAEL CHAMBERLINE, of Dublin, alderman, 28 Jan., master of S. Anne's gild, sir John Terrell, knight, and 1603 Richard Gerrald, merchant, wardens, grant to NICHOLAS STEPHINS, of Dublin, merchant, a messuage with five shops in Cook-street, bounding to the highway on the north, the land of S. Anne's gild on the south, the land of John Eustas, of Confey, gentleman, on the east, and to Dowdall's land on the west. To hold for 61 years, to commence from the termination of a lease for 61 years, dated 18 January, 38^o Henry VIII. (1546), made to Thomas Stephins, grandfather of said Nicholas. Dated 28 January, 1603. [SEAL.]

48a. [The following Deed relating to the gild property is enrolled in Patent Roll (Chancery), 11^o Charles I., part 4.

1 Aug., Conveyance, dated 1 August, 1626, from the master, 1626 wardens, brothers, and sisters of S. ANNE'S GILD to PETER HARRISON,¹ Dublin, gentleman (in consideration of a competent fine), of a messuage or tenement with cellars, stables, rooms, &c., in Cooke-street, *alias* Pipe-street, Dublin; and also a chamber adjoining S. Audoen's churchyard, with a cellar under same, all lately in the tenure of Robert Harrison, deceased, bounding from the highway on the north to S. Audoen's churchyard on the south, and from a house, cellar, or stable appurtenant to the city, sometime part of the possessions of S. Mary's Abbey, now in the occupation of Thomas Plunkett, Dublin, alderman, in the west, to the land belonging to the Hogges, now in the occupation of said Peter Harrison, in the east; to hold for ever, at the yearly rent of 3l.

¹ A chalice in S. Audoen's church is engraved "Ex dono Petri Harison, 1624."
—*Journal, Memorials of the Dead*, vol. v. (1902), p. 203.

The gild appoint William Pallas, Dublin, gentleman, their attorney, to deliver seisin to said P. Harrison; signed by Ed. Malon, master, Hen. Stephins, Luke Plunkett, wardens, Robert Bath, John Goodwing, R^d. Ashe, W^m. Palles, Kath. Barnewall, K. Rowland.]

49. (52) ROBERT PLUNKETT, late of Rathmore, Co. Meath, Esq. (after reciting a grant made to him 31 March, 1621, 1656. under the name of Robert Plunkett, of Dublin, merchant, by the master and wardens of S. Anne's gild, of a great stone tenement in Cooke-street, Dublin, then divided into three parts or houses, one then in possession of Stephen Gernon, another in that of Robert Eustace, baker, and another in that of William Quintermass, tailor, bounding to the lands of said gild on the east, (that is) to the house in which said Robert Eustace then dwelt, and the land of said gild on the west, (that is) to the house wherein Walter Hautone, shoemaker, dwelt, on the south, to the King's pavement and to Cooleman's brooke on the north, to hold for ever by the services thereout due, at the yearly rent of 1*l*. 2*s*. 4*d*.; and that said houses and buildings have been totally demolished, and Plunkett in arrear of rent for 16 years), all actions of waste being foregone, surrenders the premises.

Dated ———, 1656.

Witnesses.—Fra^s. Peisley, Anth. Dobbs, Geo. Stanley. [SEAL.]

50. The master and wardens of S. ANNE'S GILD grant to 7 April, MICHAEL CHAMBERLAINE, of Dublin, Esquire, a fee-farm 1674. formerly granted to Michael Chamberlaine, alderman, deceased, great grandfather of said Michael, of a tenement in Cook-street, in which one Halman dwelt, now in the tenure of Robert Meade, brewer, which came to Christopher Chamberlaine, father of said Michael; to hold for ever, by the services to the chief lords thereout due and accustomed, at the yearly rent of 38*s*. 6*d*., Irish.

Dated 7 April, 1674.

(*In dorso*).—No. 2, Ledger folio, 234.

51. Lease, dated 9 July, 4 William and Mary, made by 9 July, PETER WYBRANTS, Dublin, Esquire, master of S. Anne's 1692. gild, Peter Desmyniere, Dublin, gentleman, and Thos. Howard, Esquire, wardens, to the Right Hon. sir ROBERT SOUTHWELL, Knt., Principal Secretary of State, executor of the will of sir John Percivall, Bart., in trust for sir John Percivall, a minor, his

son and heir; of a messuage or tenement, garden, &c., heretofore in the tenure of Patrick Magrane, now of Henry Wakefield, in Pipe-street, otherwise Cooke-street, bounding to Cooke-street on the south, to Colman's brook on the north, on the east to the house wherein Thomas Preston lived, and where Mr. Finglas, clerk, now dwells, and on the west to the house wherein Ann Galtrim formerly lived, where James Clark, merchant, now dwells. To hold for 99 years from the end of a lease (dated 23 May, 1639), to sir Philip Percivall, Knt., deceased, for 61 years, at the yearly rent of 40s.

[MAP.] Mem^a.—Received 20 guineas from sir R. Southwell, 10 July, 1692.

52. Counterpart of No. 51, executed by sir Robert Southwell. (*In dorso*)—No. V. Expires 1796. See No. 11, and ledger 286.

This lease and counterpart were given up by Thomas Mulock, Esq., on obtaining a new lease, on 27 July, 1778. Richd. Cooban Carr, clk. gild.

53. Lease, dated 9 July, 4 William and Mary, made by 9 July, PETER WYBRANTS, Esquire, master of S. Anne's gild, 1692. Peter Desminiers and Thomas Howard, wardens, to BARTHOLOMEW WYBRANTS, of Dublin, gentleman, in consideration of a fine of £5, of a messuage or tenement in Cooke-street, now called the Meeting-house, with sheds built thereon, and a house west of same, formerly demised to Thomas Ball, under the name of a messuage or tenement, &c., then in the tenure of Lawrence Hollywood and Francis Gore, bounding on the south to the pavement, on the north to Colman's brook, east to Captain George Maires' land, and west to Patrick Berne's land—146 feet 3 inches north to south, and 43½ feet east to west. To hold for 99 years from the end of a lease, dated 23 May, 1639, for 61 years from 1636, made to said Thomas Ball, at the yearly rent of 30s.

(Endorsed.)—"No. 19."

54. Counterpart of No. 53, executed by Bartholomew Wybrants.

(*In dorso*).—No. IV. Expires 1796. Ledger fol., 286.

This lease and counterpart were given up by Stephen Wybrants, Esquire, on obtaining a new lease on 4 Nov., 1778. Richard Cooban Carr, clk. of gild.

55. CHARLES WALLIS, master of S. Anne's gild, Christian
 26 July, Borr, Dublin, Esquire, and John Quine, wardens, grant
 1700. to BARTHOLOMEW WYBRANTS (after reciting that the gild
 had made a fee-farm grant by order of 7 April, 1674, to
 Peter Wybrants, brother of said Bartholomew, in trust for alderman
 Peter Wybrants (since deceased), father of both, which was lost, and
 said Bartholomew being heir to the said alderman and said Peter), a
 messuage, &c., in Cooke-street, *alias* Pipe-street, wherein Patrick
 Bathe formerly dwelt, late in possession of alderman Peter Wybrants,
 deceased, bounding on the south to the pavement, on the north to
 Coleman's brook, on the east to land of the gild, and on the west to
 land formerly called Brymingham of Corbally his land, 35 yards 1 foot,
 from north to south, 10½ yards from east to west. To hold for ever,
 by the services to the chief lords, thereout due and accustomed, at
 the yearly rent of 1*l.* 2*s.* 6*d.*

Dated 26 July, 1700.

(No. VI.; ledger fol., 294.)

56. PHILIP PERCIVALL, master of S. Anne's gild, the Right
 13 Feb., Hon. Richard Tighe and James Somervell, merchant,
 1722. wardens, grant to MARY WHITSHED, Dublin, widow, a
 plot of ground in Cook-street, at the lower end of School-
 house-lane, whereon three small tenements are now built; in front to
 Cook-street, 13 feet; in depth up to the east side of Schoolhouse-lane,
 56½ feet. To hold for ever, at the rent of 10*s.* for the first year; 30*s.*
 for the next 28 years, and 3*l.* after that.

Dated 13 February, 1722.

(No. IX., fee-farm.)

[For premises in Cook-street, see also Nos. 60, 101, 119, 133,
 and 134.]

CORN MARKET.

See Deeds, Nos. 88 to 99, premises within the New Gate, and
 note, p. 72; also Nos. 114, 116, 117, 118, and 119, premises described
 as in S. Audoen's parish.

COOMBE, THE. (See No. 119.)

GOLDEN-LANE.

57. (301) Robert Sutton, clerk, William [Spaldyng¹] and
 22 Dec., Henry Walshe make John Ryver their attorney [to put
 1382. Thomas Umphree and Robert . . .² in possession of a

¹ Supplied from Book of Abstracts, S. Anne's Deeds (Gilbert mss.). ² Illegible.

messuage in Golden-lane,¹ parish of S. John a.],² Booth-street, Dublin

Dated Monday next before the feast of the Nativity, 6^o Richard II
[SEAL.]

(*In dorso*).—"John de Bow Streete, Bertranscourt, houses in Cooke-street."

HIGH-STREET.

58. (540) ROGER COLEMAN grants to the PARISHIONERS OF S. AUDOEN's, Dublin, 10s. yearly rent towards the work [1304.] of the fabric, out of a tenement within the New Gate, Dublin, in High-street, in said parish. . .⁴
Unred, and lying between the land of Anabilla Garget on the one side, and the land of Henry le [Mar] eschal. . .⁴
in perpetual alms towards the works of said church, and the sustenance of a light in . . .⁴ chapel.

Witnesses.—[Geoffrey⁵] Morton, mayor, Edward Colet, and John de Cadwely, bailiffs, Henry . . .⁴ le Decer, John le Seriant, Robert de Notingham, Thomas Colice, John de Ley[cester], William Don, and William le . . .⁴

59. (507) JOHN DE GAYTON, apothecary, releases to ROBERT 9 Dec., MENYS, citizen, of Dublin, a messuage in High-street, 1338. Dublin, lying between the tenement formerly John Decer's (senior) on the one side, and the tenement of said Robert on the other; in length from the highway to the church of S. Audoen in the rere; to hold for ever. Dated, at Dublin, Wednesday next after the feast of S. Nicholas the bishop, 12^o Edward III.

Witnesses.—Robert Tanner, mayor, Robert Houton, John Creks,

¹ No lane of this name is known to have existed in this parish; Golden-lane, off Bride-street, was in the parish of S. Bridget (Bride). It seems strange that there should have been three lanes of the name in the old city, as "le Golde-lane," in the parish of S. Michael, is mentioned in a document of 1438, among the Deeds in T. C. D. Library. This last, however, may be identical with the first-named; the parishes adjoin, and some confusion may have arisen.

² Supplied from Book of Abstracts, S. Anne's Deeds (Gilbert mss.).

³ Illegible.

⁴ Torn.

⁵ Morton, Colet, and Cadwely were mayor and bailiffs in 1304. See *Register of All Hallows, Dublin*, p. 44 (Irish Arch. Soc.).

bailiffs, William Dounce, Nicholas Bisschop, Gerald le Jong^r, Richard Pontoys, clerk.

(*In dorso*).—"Gayton his release to Meenes."

60. (512) WILLIAM DOUCE, the elder, citizen of Dublin, 12 Nov., grants to SIMON DE SOMERDEBY, chaplain, two shops with 1342. a garden adjacent, in High-st., parish of S. Audoen, opposite the conduit of the water of said city, which he has of the feoffment of Thomas Wale; one small chamber with a cellar in Cook-st. lying between the tenement formerly of Bartholomew de Crecks; also a messuage with cellar, &c., in Pycot's-lane, in the parish of S. Audoen, called the bakehouse of the Rame, which he has of the gift of Thomas, son and heir of Henry le Mareschall; also a messuage on the Key in the parish of S. Olave, in length from said Key in front to the Skarlet-lane. To hold for ever.

Witnesses.—John le Seriaunt, mayor, John de Crek, and Walter de Castleknock, bailiffs, sir Elyas de Asschebowrne, knight, Geoffrey Crompe, John de Menes, Kenewrek Schermane,¹ Nicholas Bisschop, Henry Kenp, Gerald Yong^r.

Dated, at Dublin, Tuesday after the feast of S. Martin the bishop, 16^o Edward III.

61. (550) THOMAS DE ASSCHEBOURNE, knight, son and heir 1 April, of Elias de Asschebourne, knight, releases to WALTER 1359. PARAVAUNT, citizen and merchant, Dublin, two places of land within the walls of Dublin—one in High-st., between the land which was John Creks' towards the east, and the land of the Prior and Convent of the House of S. John without the New Gate towards the west; in length from said street in front to the city wall in the rere, and so transversely there, extending in breadth between said wall and the land of Robert Burnell in length, and another place of land lying between said wall and the tower of the New Gate, and extending from the street in front of said wall in the rere. To hold for ever.

Dated Monday next after the feast of the Annunciation of the B. V. M., 33^o Edward III.

Witnesses.—John Taylour, mayor, Thomas Wodelok, and Roger Wych, bailiffs, Robert Burnell, John Graumpe, Thomas Minxhull.

(*In dorso*).—Two houses within the New Gate; Stafford Goding, tenant, 1594. [SEAL.]

¹ Kenewrik Sherman, formerly mayor, died 6 March, 1361, and was buried under the belfry of the Dominicans, which he built. (Camden's *Annals*.)

62. (511) **PETER WODER**, William Seriaunt, Robert
6 July, Seriaunt, and John Seriaunt release to **NICHOLAS SERIAUNT**
1392. a shop in High st. opposite the Bulryng, in the parish of
 S. Audoen, which John Passavaunt now holds.
 Dated at Dublin, 6 July, 6° Richard II. [THREE SEALS.]

63. (509) **ALICE GALLANE**, formerly wife of Nicholas
20 April, Seriaunt and **THOMAS DONEWYHT**, grant to **ROBERT LOGH**,
1392. John Walsh, Robert Seriaunt, James Nassh, John Patryk,
 and Thomas Leycester, chaplains, a shop in High-st.,
 parish of S. Audoen, Dublin, which lies in breadth between that of
 John Seriaunt, bastard, on the west, and that of Walter, son of Roger
 Passavaunt, in which Robert Piers dwells, on the east; and in length
 from High-st. in front from the Bulring towards the south, up to the
 land of S. Audoen's church, Dublin, towards the north. Also, a cellar
 with a solar in the Taverners-st., parish of S. John of Bothe-street,
 which lies between the solar of Roger Kylmore on the south, and the
 cellar of Richard, son of Adam, clerk, on the north; and extends in
 length from said street in front to the land formerly Roger Kylmore's
 in the rere. To hold for ever.

Dated 20 April, 15° Richard II. [SEALS.] (See No. 66.)

64. (510) **WILLIAM**, son of **HENRY SERIAUNT**, releases to
26 April, **ROBERT LOGH**, John Walsh, Robert Seriaunt, James Nassh,
1392. John Patryk, and Thomas Leycester, chaplains, the
 premises in No. 63.

Dated 26 April, 15° Richard II. [See No. 66.]

65. (169) **RICHARD BACONNE** and **WALTER TALBOT**, citizens
27 July, of Dublin, grant to **JOHN MOLL**, John Crystofre, John
1414. Yngoll, John Wyntytr, and John Strech, chaplains, a
 messuage which grantors had of the feoffment of Robert
 Seriaunt, citizen of Dublin, deceased, in length between the
 messuage in which Nicholas Heynot now lives on the west, and a
 shop, formerly said Robert's [now] Luke Dowdall's, on the east; in
 breadth from the High-st. to the New Gate on the south, to the city
 wall on the north; and three shops between the messuage of William
 [Ashborne]¹ on the west, and the tavern, formerly of said Robert
 Seriaunt, on the east, which John Barnet now holds. To hold for ever.

Dated Friday next before the Feast of S. Peter ad Vincula,
 2° Henry V.

¹ Supplied from Book of Abstract of S. Anne's Deeds (Gilbert mss.)

66. (513) JAMES NASHE and JOHN PATRYK, chaplains, release
 20 April, to ROBERT GALLANE, citizen of Dublin, a shop and cellar
 1415. with a solar, the shop lying between the shop formerly
 of John Seriaunt, bastard, towards the west, and the shop
 formerly of Walter Passavaunt towards the east, as it lies in length
 and breadth from High-st. in front from the Bulring to the south, to
 the land of S. Audoen's church towards the north; said cellar and
 solar lie in the Taverners-st. [in the parish] of S. John the Evangelist
 between the cellar formerly Roger Kylmore's to the south and the
 cellar of Richard Clerke to [the north], from the Taverners-st.
 in front towards the east, to the lands formerly said Roger's towards
 the west.

Dated 20 April, 3° Henry V.

67. (520) JOHN MARTYNE and PHILIP DANYELL, chaplains,
 17 Oct., grant to GEOFFREY CALFE, Alexander Hunter, and David
 1436. Taillour, chaplains, a messuage in High-st., parish of
 S. Audoen, lying between the land of Thomas Newbery
 and Margaret,¹ his wife, lately belonging to Luke Dowdall, on the
 west, and the lands lately of Robert Wode, Joan Boys, and John
 Corteyes on the east; lands of said John, Joan, Thomas, and Margaret,
 formerly of said Luke, on the north, and said street on the south. To
 hold for ever.

Dated 17 October, 15° Henry VI.

(Endorsed).—"A house by the Pype to 1594."

68. (521) Grantors in No. 67 make RICHARD EUSTACE and
 17 Oct., ROBERT WODE, citizens of Dublin, their attorneys to
 1436. deliver seisin to grantors.

Dated 17 October, 15° Henry VI.

[SEAL.]

69. (522) Release of premises in No. 67.
 19 Oct., 1436. Dated 19 October, 15° Henry VI.

70. (508A) JOHN GALLANE, citizen of Dublin, Thomas
 8 Oct., Squyer, chaplain, and Geoffrey Calf, chaplain, grant to
 1443. ALEXANDER HUNTER, chaplain, the premises in No. 63.
 To hold for ever.

Dated 8 October, 22° Henry VI.

[TWO SEALS.]

¹ For Will, &c., of Dame Margaret Newbery, *alias* Nugent, 1474, see Wills, Diocese of Dublin, 1457-1483 (R. S. A. I.), ed. H. F. Berry.

71. (508) JOHN GALLANE, citizen, Thomas Squyer, chaplain,
 8 Oct., and Geoffrey Calf, chaplain, make ROBERT SHIRBORNE, clerk,
 1443. their attorney, to deliver seisin to ALEXANDER HUNTER,
 chaplain, of a messuage in High-street, in the parish of
 S. Audoen, in breadth between the tenement of Thomas Schortals and
 Ellen Duncrefe, his wife, on the west, and the tenement, lately of John
 White, on the east; in length from the High-street in front, from the
 Bulring towards the south, to the church of S. Audoen towards the
 north; and of a cellar with a solar in the Taverners-street, parish of
 S. John of Bothe-street, which lies in length from the Taverners-
 street in front up to the tenement formerly of Geoffrey Parker in the
 rere; and in breadth from the tenement lately of John Drake on the
 south, to the tenement of the prior and brethren of S. John's House
 without the New Gate on the north. To hold for ever, as in a charter
 then made.

Dated 8 October, 22° Henry VI.

[SEAL.]

72. (518) GEOFFREY CALFFE, Alexander Hunter, and David
 12 June, Taillour, chaplains, appoint THOMAS SAVAGE, merchant,
 1445. Dublin, their attorney, to deliver seisin to THOMAS BERTENAGH of premises in No. 67.

Dated 12 June, 23° Henry VI.

73. (517) GEOFFREY CALFFE, Alexander Hunter, and David
 13 June, Taillour, chaplains, grant to THOMAS BERTENAGH, citizen
 1445. of Dublin, the premises in No. 67. To hold for ever.

Dated 13 June, 23° Henry VI.

74. (519) GEOFFREY CALFFE, Alexander Hunter, and David
 15 June, Taillour, chaplains, release to THOMAS BERTENAGH, the
 1445. premises in No. 67.

Dated 15 June, 23° Henry VI.

75. (514) ALEXANDER HUNTER, chaplain, grants to THOMAS
 3 May, SQUYER, Thomas Norreys, and David Taillour, chaplains,
 1447. the premises in No. 67. To hold for ever.

Dated 3 May, 25° Henry VI.

[SEAL.]

76. (525) ALEXANDER HUNTER, chaplain, releases to
 24 Jan., THOMAS SQUYER, Thomas Norreys, and David Taillour,
 1450. chaplains, the premises in No. 67.

Dated 24 January, 28° Henry VI.

[SEAL.]

77. (523) THOMAS SQUYER, Thomas Norreys, and David
20 Feb., Taillour, chaplains, grant to THOMAS WOLTON, citizen of
1451. London, the premises in No. 67. To hold for ever.⁵
Dated 20 February, 29° Henry VI. [THREE SEALS.]

78. (524) Grantors in No. 77 make NICHOLAS BELLEWE,
20 Feb., citizen of Dublin, their attorney, to deliver seisin to
1451. grantees.
Dated 20 February, 29° Henry VI. [SEAL.]

79. (516) THOMAS SQUYER, Thomas Norreys, and David
24 Feb., Taillour, chaplains, release to THOMAS WOLTON, citizen of
1451. London, the premises in No. 67.
Dated 24 February, 29° Henry VI.

80. (515) JOHN SHYNNAGH, citizen and merchant of Dublin,
2 Mar., releases to THOMAS WOLTON, citizen of London, a messuage
1451. in High-street, parish of S. Audoen, &c., as in No. 67.
Dated 2 March, 29° Henry VI. [SEAL.]

81. (108) THOMAS MULSANE, citizen and merchant, master
4 Nov., of S. Audoen's gild, Walter Piers and William Grampe,
1478. wardens, grant to JOHN SERGEAUNT, citizen and merchant,
a shop and chamber built over it, in High-street, parish of
S. Audoen, lying in breadth from the land of Thomas Woltoun, citizen,
where he lives, on the east, up to the land of the gild of S. John the
Baptist,¹ in the church of S. John the Evangelist, on the west; and in
length from said street on the north, to the land of said Thomas on the
south. To hold for 40 years, at the yearly rent of 8s., silver.

Dated 4 November, 18° Edward IV. [SEAL.]

82. (82) PATRICK FITZSYMON, Dublin, merchant, master of
4 May, S. Anne's gild, William Queytrot and Edmond Herford,
1527. wardens, let to farm to ALEXANDER BESWYK, Dublin,
merchant, a messuage, with cellars, shops, houses, gardens,
&c., in which Patrick Brymygham, chief justice of the King's Chief
Bench in Ireland, lately dwelt, by the High Pipe,² Dublin, in length
from the street by the said High Pipe in the south, to the houses of

¹ The fraternity of Tailors.

² This conduit lay at the western extremity of High-street. It was erected in
1306 by John le Decer, mayor of Dublin.

S. Anne in the "Kock"-street in the north; and in breadth from the land of Dame Eleanor Dowdall, wife to William Preston, viscount and lord of Gormanston, on the west, and land of Thomas Crampy in the east. To hold for 21 years, and 21 years next after the end of that term, at the yearly rent of 40*s*. Said Alexander Beswyk to find and sustain an honest priest, meat and drink at every meal.

Dated 4 May, 19^o Henry VIII.

[For premises in HIGH-STREET, see also No. 101.]

KEYZAR'S-LANE.

83. (503) Exemplification, dated 1 December, 2^o Henry IV., by
 1 Dec., Thomas Cusak, mayor of Dublin, Robert Piers, and Richard
 1400. Tailor, merchant, bailiffs, of the record of a process of
 "fresh force" (*frisci forcie*)¹ held at Dublin on Wednesday
 before the feast of S. Ambrose, in the 1st year of K. Henry IV. before
 Ralph Ebbe, mayor, Richard Borre, and Richard Tailor, merchants,
 bailiffs, to recognise if JOHN, son of RICHARD FITZ WILLIAM, of Swerds,
 and ALICE, his wife, unjustly disseised ROBERT LOGH and JOHN WALSCHE,
 chaplains, of two messuages in Kyasere's-lane, par. S. Audoen, as of
 their free tenement. The Fitz Williams were "not found" in the
 bailiwick by the serjeant, and there were no goods to attach. It was
 found that they did unjustly disseise to the damage of 20*s*.; plaintiffs
 to recover seisin.

(*In dorso*).—A stone house or hall. 2 shops in Kissard's-lane.

MERCHANTS' QUAY.

84. (528) THOMAS SQUYER and Thomas Norreys, chaplains,
 12 May, grant to S. ANNE'S GILD a messuage on the Key, which
 1468. they, Nicholas White and John Waas, chaplains, deceased,
 lately had of the feoffment of Ralph Pembroke,² citizen of
 Dublin, in which said Ralph formerly dwelt. To hold for ever.

Dated 12 May, 8^o Edward IV.

[SEAL.]

(Endorsed).—"The deeds of the house upon y^e Key callyt Rayth
 Pymbroke ys howse."

¹ *Frisca Fortia* is a force newly done in any city or borough. If any were disseised of lands, he who had right to the land by usage of said city, might bring his assize of Fresh Force, within 40 days and recover the lands (*Jacob's Law Dict.*).

² "Ob. Radulphus Pembroke, qui legavit priori et conventui duas domos in vico Rupelli." *Obits Christ Church*, p. 12.

85. (530) Release of premises in No. 84.

15 May, Dated 15 May, 8° Edward IV. [Two SEALS.]

1468. (Endorsed).—Thomas Wolton, master, Henry White, and Henry Yong, wardens. Raffe Pembrok—now Mat^r. Hancock.

86. Lease, dated 16 August, 13° George II., made by ISAAC

16 Aug., AMBROSE, master of S. Anne's gild, William Tighe and

1740. John Ball, wardens, to PHILIP PERCIVALL, of a parcel of ground on Merchants'-Quay, parish of S. Audoen, now in his occupation, 17 feet 9 inches in front; in breadth, in the rere to Colman's brook, 19 feet, joining the city Marshalsea and waste ground of the gild, 147 feet; and in length, from front to rere on the west, joining the holding of Mr. Lynch, 155 feet. To hold for 99 years, at the yearly rent of 2*l*.

Witnesses.—John Grattan, Joseph Nuttall.

Map, surveyed in July, 1748, for Ph. Percivall. Gab. Stokes.

Map of two lots of ground, one lying on the north side of Cook-st. in the occupation of Mr. Andrews, cooper; the other on the south side of Merchants'-Quay, in the occupation of Mr. Fullam, glover, in Bridge-st., part of the estate belonging to the corporation of S. Anne's gild.

Attached is a paper from the Auditor-General's Department, viz. :—

By patent 24 April, 20 Charles II., sir Hans Hamilton, Oliver Wheeler, and James Manson, tenants of a house or castle, on Merchants'-Quay, where Thomas Cook dwells, now or late in the possession of Lawrence Allen, formerly belonging to Barnwall, of Bremore.

NOTE.—Together with houses in Dublin and Drogheda granted by this patent, there is a large estate in lands which are subject to quit rent, charged on the houses if they are not to be found. The house under the title of the guild of S. Anne of S. Audoen's cannot be subject to rent charged on above patent, nor can it be the same house then granted, because the guild never forfeited, whereas their house in arrears was Barnwall's, forfeited as above mentioned.

87. Counterpart of No. 86. (With map.)

Surrendered, and a new lease granted to MARY and HARRIET MULOCK for 99 years from 1 May, 1796.

[For premises on this Quay, see also No. 60.]

NEWGATE, WITHIN THE.¹ (*Cornmarket.*)

88. THOMAS DE ASSCHEBOURNE, knight, son and heir of
 25 Jan., Elias de Asschebourne, knight, grants to WALTER, son of
 1356. ROGER PASVAUNT, citizen and merchant of Dublin, two
 marks, silver, yearly rent, out of a tenement within the
 Newgate, lying between the tenement of Robert Burnel on the west,
 and the tenement of the Prior of S. John without the Newgate on the
 east. To hold for ever.

Dated, at Dublin, Monday next after the octave of Hilary, 30°
 Edward III. [SEAL.]

89. (556) ROBERT BURNELL grants to JOHN STAFFORD, of
 16 Sept., Dublin, baker, his land with buildings, &c., within the
 1406. Newgate, lying between the land of Elias de Asshebourne,
 on the one side, and the land of Thomas Sparke, on the
 other; and extending in length from the street in front to the land of
 said Elias in the rere, for ever.

Dated Thursday next after the feast of the Exaltation of the
 Holy Cross, 7° Henry IV.

90. (557) Release of premises in No. 89.
 21 Sept., Dated the feast of St. Matthew, 7° Henry IV.
 1406.

91. (551) JOHN, son and heir of ROBERT BURNELL, citizen of
 20 Mar., Dublin, releases and quit claims to JOHN STAFFORD,
 1407. citizen of Dublin, land with buildings within the New-
 gate, between the land formerly of Elias de Asshebourne
 on the one side, and land formerly of Thomas Sparke, on the other in
 breadth; and in length extending from the street in front to the land
 of said Elias in the rere.

Dated 20 March, 8° Henry IV.

92. (558) ROBERT, son of ROBERT BURNELL, citizen of
 4 Dec., Dublin, grants to JOHN STAFFORD, citizen and baker, land
 1408. within the Newgate, lying between the town wall on the
 one side, and land formerly Thomas Sparke's, on the other,

¹ The premises described as "within the Newgate," probably lay in what is now known as the Cornmarket. The line of street west of High-st. from the High Pipe to the Newgate was originally named Newgate-st., subsequently acquiring the name of the Cornmarket.

in breadth, and in length from the street in the front, to land which Walter Tyrrell now holds, for ever.

Dated 4 December, 10^o Henry IV.

93. (559) Grantor in No. 92 makes RICHARD WOOD, citizen 14 Dec., of Dublin, his attorney, to place grantee in seisin of the 1408. premises therein.

Dated 14 December, 10^o Henry IV. [SEAL.]

94. (560) Release of premises in No. 92. 16 Dec., 1408. Dated 16 Dec., 10^o Henry IV. [SEAL.]

95. (561) FELICIA WALSCH, sister and heiress of John 9 Jan., Walsch, chaplain, lately deceased, releases to JOHN STAFFORD, citizen of Dublin, a tenement within the Newgate, 1412. Dublin, lying between the land formerly of Elias de Asschebourne, and land formerly of Thomas Sparkes in breadth, and in length between the land of said Elias in the rere, and in front the High-street; to hold for ever, by the services due thereout to the chief lords.

Dated Tuesday before the feast of S. Laurence the Martyr, 13^o Henry IV.

96. (547) Lease from JOHN YONGE, chaplain, to JOHN 13 Feb., STAFFORD, citizen and baker, Dublin, of a messuage within 1412. the New Gate, parish of S. Audoen, in length from the street in front, to the north, up to the land formerly of Elias Asshebourne on the south; and in breadth lying between the land formerly of said Elias towards the east, and the land formerly called Sparkesland towards the west.

Dated 13 February, 14^o Henry IV. [SEAL.]

(*In dorso*).—"The deeds of y^e house within the New Gate where Mr. Syllyfforde dwelt in."

97. (546) Release of the premises in No. 96. 14 Feb., 1412. Dated 14 February, 14^o Henry IV.

98. (548) JOHN SERIAUNT, son and heir of Margaret, daughter and heiress of Roger Pasvaunt, formerly citizen and 4 Dec. merchant of Dublin, releases to JOHN STAFFORD, citizen 1433 of Dublin, a tenement within the New Gate, between the tenement of said John Stafford on the west, and the tenement of

the Prior and Brethren of the Hospital of S. John the Baptist, without the New Gate, on the east.

Dated 4 December, 12^o Henry VI.

(Endorsed).—Release of y^e howse y^t William Pyppart dwells in within the y^e Newe Gatt.

99. (91) Lease, dated 29 September, 38^o Henry VIII.,
29 Sept., made by NICHOLAS WMFFREY, of Dublin, merchant, master
1546. of S. Anne's gild, Walter Barby and Clement Halman,
 Dublin, merchants, wardens, to JOHN YONGE, of Dublin,
 merchant, of a messuage beside the New Gate (except the half
 "gylose"), as it lies in breadth from S. Anne's ground on the east, to
 ground of James Dowdall on the west; and in length from the King's
 pavement on the south to S. Anne's ground on the north; with a void
 place on the north side, between said messuage and the garden that
 John Caudell, late of Dublin, merchant, lately held of S. Anne. To
 hold for 61 years, from 28 September, 1593, at the yearly rent of
 33s. 4d.

(*In dorso*).—1546, John Yong's lease upon Mr. Malone's house, ended
 1634 (*recte*, 1654). [SEAL.]

[For premises within the NEW GATE, see also No. 119.]

NEWGATE, WITHOUT THE.

100. (89) Lease, dated 23 May, 15^o Charles I., made by
23 May, NICHOLAS LOFTUS, Esquire, master of S. Anne's gild, John
1639. Byssie, Esquire, Recorder of Dublin, and Richard Barrie,
 alderman, wardens, to ANDREW CLERKE, merchant (said
 Andrew Clerke having, in obedience to an order of the Lord Deputy
 and Council, dated 31 May, 1638, delivered up to the master and
 wardens to be cancelled a fee-farm formerly granted), of a messuage,
 tenement, and dwelling-house without the New Gate, in the tenure
 of Ann Barnwell, widow, bounding on the east to the lands of Patrick
 Dowdall, of Drogheda, on the west, to the land of Roger Ells, to the
 highway on the south, and to the lands sometime belonging to
 S. John's without the New Gate, on the north; 6 yards 1 foot from
 east to west, and 8 yards 1 foot from north to south; with all
 buildings, rooms, lights, ways, passages, &c., appertaining thereto.
 To hold for 61 years from the Annunciation of the B.V.M. in the
 year 1636, at the yearly rent of 40s.

Witnesses.—William Palles, H. Stephins, Christopher White, Nicholas Loftus, master, John Byse, warden, Richard Barry, warden, John Derensis,¹ Jo. Brooke, William Malone.

(*In derro*).—Surrender by Catherine Clarke, widow and administratrix, 25 July, 1661.

Witnesses.—Jehn Dawson, Patrick Browne, Barbara Worrall.

PYCOT'S LANE. (See No. 60.)

RUPPELL STREET, *alias* ROCHELL-LANE (afterwards BACK-LANE).

101. ALEXANDER HUNTER, chaplain, grants to JOHN BURNELL, 24 Mar., master of S. Anne's gild, Robert Wode and David Rowe,

1435. wardens, a messuage with stone house and garden adjacent in Rupell-st., Dublin, parish of S. Audoen, in breadth between a tenement lately Robert Flode's (senior), now Ralph Pembrok's, on the south, and the land of S. John's Hospital without the New Gate, on the north; in length from said street in front to the wall of said city in the rere; one other messuage in breadth between a messuage lately William Asshebourne's, now James Dowdale's, on the west, and the shop lately Luke Dowdale's on the east; in length from High-st. leading to the New Gate on the south, to the old walls of said city on the north; and the new building of a hall and shop with gallery, where were 3 shops in same messuage, lying between the messuage of said James on the west, and the shop of the tenement in which John Barret now dwells on the east, and a tenement lately of Richard Charlton, chaplain, in Cook-st., parish of S. Audoen; in length from said street in front on the south, to the tenement of John Burnell on the north in the rere; in breadth from the tenement of said John Burnell on the west, to the tenement lately John Bathe's, now John Stafford's, on the east; and a messuage in the parish of S. Audoen, near the High Pipe of said city, extending in length from the highway there called the Bulrynge in front to the land of S. Audoen's church in the rere; and in breadth from the tenement of John Burnell and Thomas Schortals and Ellen Duncrefe, his wife, to the lane leading to said church. To hold for ever, by the services thereout due.

Dated 24 March, 13^o Henry VI.

(Endorsed).—"Rochell-lane, Cornmarket, Cooke-st."

This deed is enrolled in Pat. Roll. 13 Hen. VI. (No. 76).

¹ John Bramhall, bishop of Derry, 1634–1660.

102. (115) **JOHN SERIAUNT**, master of S. Anne's gild, Richard
30 Sept., Pecoke and John Whyte, wardens, grant to **WILLIAM**
1489. **BROUN**, son of Henry Broun, of Dublin, a messuage with a
house built on same, and a little garden annexed in
Rochelle-st.; in breadth between the land of S. Anne on the north and
south; and in length from said street on the east to the land of
S. Anne on the west. To hold for 30 years, at the yearly rent
of 3s. 8d.

Dated 30 September, 1489.

103. (109) **THOMAS BARBE**, Dublin, merchant, master of
26 Sept., the gild of S. Anne, Harry Gawrane, Dublin, chaplain,
1538. and Clement Halman, merchant, wardens, grant to
NICHOLAS QUAYTROT, Dublin, merchant, two cellars with a
garden in Rochell-lane; one cellar lying in length from the highway
to the town wall on the south, to the lane aforesaid on the north; and
in breadth from a garden that James Rere holds of S. John's without
the New Gate on the west, to a stable, a long bawn, and a long cellar
that John Pyppard holds of S. Anne on the east. To hold for 51 years,
at the yearly rent of 10s. [SEAL.]

Dated 26 September, 30° Henry VIII.

104. (114) **NICHOLAS QUAYTROT**, of Dublin, merchant,
29 Sept., master of S. Anne's gild, Harry Gawran and Clement
1538. Halman, wardens, grant to **JOHN PYPPART**, Dublin, merchant,
a cellar and stable with a garden, a long bawn, a long
cellar, and long loft, in Rochell-lane, now in the
"manurans" of John Peppard, adjoining on the south to the town
wall; on the west to S. Anne's ground, being in Nicholas Queytrot's
holding; on the east to the ground sometime called Collier's ground,
and on the east and north to Rochell-lane. To hold for 51 years, at the
yearly rent of 6s. 8d.

Dated 29 September, 30° Henry VIII.

[SEAL.]

(Endorsed).—"Ended 1589."

105. (111) **NICHOLAS QUAYTROT**, of Dublin, merchant, master
1 Nov., of S. Anne's gild, Harry Gawrane, chaplain, and Clement
1538. Halman, wardens, grant to **JOHN SPENSFELL**, Dublin,
merchant, a garden in Rochell-lane, in length from the
town wall on the south to the said lane on the north; and in breadth
from a garden, now held by Walter Fitzsymons from Christ church on

the east, to a garden and stable that John Pyppart holds of S. Anne on the west. [SEAL.]

Dated 1 November, 30° Henry VIII.

106. (570) RICHARD WHYT, son and heir of Simon Whyt — Feb., and Katherine Hodd, daughter and heiress of Alson

1539. Colman, daughter and heiress of Joan Colyer, in consideration of a sum of money paid him by John Pyppart, Dublin, merchant, grants to said JOHN PYPPART, a tenement lying from the city wall on the north, from land of S. Anne's gild, which said Pyppart holds, on the east, from a street called Rochell-lane on the south, and from the land of the priory of the cathedral church of the Holy Trinity, which Walter Fitzsymon holds, on the west. To hold for ever, by the services thereout due and accustomed.

Dated 30¹ February, 30° Henry VIII.

Witnesses.—Thomas Fyan, Jas. Sedgrave, Mych. Rosell.

(Endorsed.)—"Back-lane."

[SEAL.]

107. (570b) RICHARD WHYT, of Fynglas, smith, acknowledges — Feb., receipt of 33s. 4d. from JOHN PYPPART, in full of 40s.

1539. which he ought to have received for the premises in No. 106.

Dated 30¹ February, 30° Henry VIII.

108. (113) WALTER TYRRELL, Dublin, merchant, master of 16 Jan., S. Anne's gild, Walter Barby and Robert Golding,

1545. wardens, grant to JOHN PEPART, Dublin, merchant, the premises in No 104. To hold for 61 years, at the yearly rent of 4s. 8d.

Dated 16 January, 36° Henry VIII.

(Endorsed).—"Ended 1605."

[SEAL.]

109. (107) NICHOLAS HOMFRAY, Dublin, merchant, master 12 Feb., of S. Anne's gild, Walter Barby and Clement Halman,

1546. Dublin, merchants, wardens, grant to sir JAMES MORE, chaplain, the premises in No. 103. To hold for 61 years from the end of Nicholas Queytrot's term, at the yearly rent of 10s.

Dated 12 February, 37° Henry VIII.

[SEAL.]

¹ So in original.

110. (110) NICHOLAS UMMFREY, Dublin, merchant, master
 19 Sept., of S. Anne's gild, Walter Barby and Clement Halman,
 1546. wardens, grant to JOHN BATILLY, merchant, the premises
 in No. 105. To hold for 61 years, at the yearly rent of 10s.
 Dated 19 September, 1546.

111. (112) NICHOLAS HOMFRAY, master of S. Anne's gild,
 21 Jan., Walter Barby and Clement Halman, wardens, grant to
 1547. EDWARD PEPPARD, Dublin, merchant, the premises in
 Nos. 104 and 108. To hold for 61 years, to commence
 from the end of John Peppard's term, at the rent of 4s. 8d. yearly.
 Dated 21 January, 38^o Henry VIII.
 (Endorsed).—"Ended 1656." [SEAL.]

SCARLETT¹-LANE.

112. (94) Lease, dated 7 November, 1568, whereby (after
 7 Nov., reciting that Walter Tyrrell, late master of S. Anne's gild,
 1568. Walter Barby and Robert Goldinge, wardens, had, by deed
 of 29 September, 36^o Henry VIII. (1544), let to William
 Birsall, late of Dublin, merchant, a garden in Scarlett-lane, joining
 to said William's garden on the west, and Arlander Ussher's orchard
 on the east, Scarlett-lane on the north, and the town wall on the south,
 for a term of 51 years) NICHOLAS FITZ SYMONS, Dublin, alderman,
 master of said gild, sir George Brune, chaplain, and Patrick Gygene,
 merchant, wardens, grant said premises to ROBERT USSHER, of Dublin,
 alderman, for a term of 61 years, from the end of the above term, at
 the yearly rent of 2s.

(*In dorso*).—"Wast writtings." "Carpenterstown² and other
 places." [SEAL.]

S. AUDOEN'S PARISH.

S. Audoen's Arch and Cemetery.

113. (505) THOMAS VALE, citizen of Dublin, grants to
 BARTHOLOMEW CREEKS, Dublin, and ALICE, his wife, land
 [1285.] within the walls of Dublin, in the parish of S. Audoen,
 between the land which he has of Thomas de Wynton on

¹ A passage extending from Isod's Tower to Cork Hill, formerly Isod's-lane, but in the thirteenth and fourteenth centuries called Scarlet-lane, in the old parish of S. Olave.

² The gild was enfeoffed of property in Carpenterstown, parish of Castleknock, by Thomas Wolton (Abstract Book, Gilbert mss.); but none of the documents connected with it remain.

the one side, and the land of Robert de Kermardyn on the other; in front, 9 feet; in rere, 13 feet; and in length from the street in front to his land behind, 74 feet. To hold for ever, at the yearly rent of a silver penny; to the commonalty of Dublin, 13½*d.*; to the prior of the Hospital of S. John, without the New Gate, 2*s.* 6*d.*; to the nuns of Tachmelyn,¹ 8*s.* ster.

Witnesses.—Walter Unred, mayor, William de Notingham and Robert le Decer, provosts,² David de Callan, Robert de Esseburne, Laurence the tailor, Roger de Esseburne, Roger the apothecary, Henry Locsmith, William de Donington, clerk.

(*In dorso*).—"1594, George Usher, ten^{t.}, Hunter, Pursell."

114. (579) THOMAS DE COVINTRE grants to WALTER, son of [cir. RALPH, citizen of Dublin, a messuage in the parish of 1293.] S. Audoen, which he has of Walter Unred, lying between the land which was of David Paraventure, on the one side, and land which was of Edward de Huccard on the other, extending in length from High-street to the cemetery of S. Audoen's.³ To hold for 30½ years from the feast of S. Michael, in the 21st year of King Edward, at the yearly rent of 20*s.*, silver. (No date; cir. 1293.)

115. (305) STEPHEN MEONES grants to JOHN STAFFORD, 6 Aug., baker, of Dublin, a messuage in S. Audoen's-lane, extending in length from the tenement formerly William 1397. Seriaunt's on the south to Cook-street on the north; and in breadth lying between S. Audoen's-lane on the east, and a messuage formerly Adam Donlavan's on the west. To hold for ever, by the services to the chief lords, due and accustomed.

To give the document validity, the seal of the Provostship of Dublin is appended.

Witnesses.—Geoffrey Gallane, mayor, Thomas Duncreff and John Philpot, bailiffs, Hugh Possewyke, Geoffrey Parker, Thomas Schortals.

Dated, at Dublin, 6 August, 21° Richard II.

(*In dorso*).—Browne's house.

[Two SEALS.]

116. (562) JOHN STRECHE, William Balylogge and John 3 Mar., Wyntyrr, chaplains, grant to JOHN BURNELL, Robert, son 1425. of John Burnell, Nicholas Eustace, John Elys, Thomas Elys, and Robert Wood, citizens of Dublin, and John

¹ Timolin, Co. Kildare.

² They were mayor and provosts in 1285.

³ This messuage would be in the Corn Market.

Cristofre, John Mole, John Walshe, senior, John Walshe, junior, and Richard Goldyng, chaplains, a tenement in Dublin, as it lies in the parish of S. Audoen, between the cemetery of said church, near the stile of said cemetery, and the way leading from the High Pipe to said church.¹ To hold for ever.

Dated 3 March, 3^o Henry VI.

[SEAL.]

117. (563) Grantors in No. 116 make WILLIAM POWER their 3 Mar., attorney to place grantees in possession of the premises.

1425. Dated 3 March, 3^o Henry VI.

(*In dorso*).—Land in S. Audoen's-street, near the cemetery, and deed of the chamber of S. Mary's chaplain within the church of S. Audoen's.

[SEAL.]

118. (564) Release of premises in Nos. 116 and 117.

10 Mar., Dated 10 March, 3^o Henry VI.

1425. (*In dorso*).—The house by the stile of the churchyard of S. Audoen's.

[SEAL.]

119. (568) JOAN, who was WIFE OF JOHN STAFFORD, baker

4 Mar., (deceased), and DAVID ROWE, executors of said John

1450. Stafford, make JOHN BRAILIS of Dublin, clerk, their attorney, to place Robert Burnell, master of the gild of S. Anne in S. Audoen's church, William Grampe and William Graas, wardens, and the brethren of said gild, in seisin of two tenements in the parish of S. Audoen, Dublin, one extending in length from Cook-street on the south, to a house called the Bakhouse on the north; the other in length from said street, from south to north, four perches, with two yards and half quarter of a yard less in breadth; said tenements extending from the tenement of S. Mary the Virgin, of S. Audoen's church, formerly Robert Carleton's, on the west, to the lane called Burnell's-lane on the east; of one messuage and one tenement lying in said Cook-street, and in S. Audoen's-lane, which messuage and tenement extend in length from said Cook-street on the north, to the cemetery of S. Audoen, and to the tenement lately of John Seriaunt, knight, on the south, and in breadth from S. Audoen's-lane on the east to the messuage of the abbess of S. Mary del Hoggys on the west; of one messuage with the appurtenances in the parish of S. Katherine the Virgin in the suburbs; of one

¹ This tenement would have lain in the Corn Market.

messuage within the New gate, which lies between the town wall on one side, and the messuage of Robert son of John Burnell, on the other, as in breadth; and in length from the street in front to the land which Walter Tirrell lately held; of two messuages within the New gate, which lie in length from the highway in front, to land lately Thomas Sparks' in the rere, and in breadth from the messuage of said Robert's son on the west, to the messuage of S. John without the New Gate, on the east¹; of two messuages in S. Francis-street in the suburbs, one lying between the messuage of S. Patrick's church on one side, and the messuage of the Friars minor on the other; the other lies between the messuage of said Friars on the one side and the messuage which John Stafford lately held, and extends from said street towards the east, to the land lately of Nicholas Fynglas towards the west; and of one garden in the suburbs, as it lies in the Coume, in the parish of S. Nicholas within the church of S. Patrick, between the land of Nicholas Tynbegh on the west, and the highway on the east, and the land of the Prior and Brethren of the Hospital of John the Baptist without the New gate, on the north, and the highway on the south; all which said John Stafford in his testament bequeathed to his executors, to have and hold to the said muster and wardens for ever, for the sustenance of chaplains of said gild, to celebrate for ever in accordance with a deed then made.

Dated 4 March, 28° Henry VI.

120. (534) NICHOLAS BOURKE, master of S. Anne's gild,
4 Aug., Richard Barby and Henry Mole, wardens, grant to ROULAND
1482, FITZ EUSTACE, knight, lord of Portlester, and Margaret, his
wife, a messuage in which Reginald Lappam dwells, in
the parish of S. Audoen, and which he holds of the gild; in breadth
between Kisshoke's²-lane on the south, and the cemetery of S. Audoen's
church on the north; and in length between the tenement of said gild on
the east, namely, at a shop there, and land or a tenement lately John
Hadsor's, on the west. To hold for their lives, and the life of the
survivor of them; after the death of said Rouland and Margaret,
remainder to Richard FitzEustace, son and heir of said Rouland for

¹ These messuages within the New Gate would have lain in the Corn market.

² No lane of this name is known to have existed, and from the boundaries, Keyzar's-lane would seem to be indicated. A family named Kysshoke resided in Dublin between 1329 and 1398, as members of it witnessed some of the Christ Church Deeds, and it is possible some small lane named from them may have existed, which afterwards disappeared.

life; should said Richard die in his father's lifetime, then after the death of said Rouland and Margaret, remainder to Oliver, son of said Rouland for life. [SEAL.]

Dated, at Dublin, 4 August, 22° Edward IV.

121. (87) Lease, dated 12 January, 38° Henry VIII., from 12 Jan., NICHOLAS HOMFRAY, Dublin, merchant, master of S. Anne's

1547. gild, Walter Barby and Clement Halman, merchant, wardens, to THOMAS FYNINER, merchant, Dublin, of a chamber by S. Audoen's churchyard, wherein sir Symon Carpender dwells, to hold for 61 years, at the yearly rent of 4s.

(*In dorso*).—Thomas Fynin's lease upon a chamber in the churchyard, and from him to Master Nicholas Owffre.

"Mr. Nycholas Umphre's Indenture upon the curate's chamber, with a provyso in the same indenture." [SEAL.]

122. (85) Deed, dated 28 December, 36° Eliz., whereby

28 Dec., (after reciting that Nicholas Humphrey, of Dublin, alder-

1593. man, master of S. Anne's gild, Walter Barby and Clement

Halman, wardens, by deed, dated 12 January, 1546 (*O.S.*), granted to Thomas Fyninge, of Dublin, merchant, a chamber joining to S. Audoen's churchyard, with a little cellar under same, wherein sir Simon Carpenter dwelt, for a term of 61 years, at the yearly rent of 4s., and further that no rent being paid, and covenants not being performed, and the chamber falling down for want of repair, the gild re-entered in June, 1588) WALTER SEDGRAVE, of Dublin, alderman, master of S. Anne's gild, Mathew Handcock, merchant, and Laurence Enos, of S. Audoen's church, clerk, wardens, grant to ROBERT HARRISON, citizen of Dublin, said chamber and cellar under same, as it lies in length from the churchyard in the south, containing 29 feet, to the chamber over the stable, sometime called S. Anne's workhouse, in the north; and in breadth 18 feet, from the ground appertaining to the gild in the east, now in his occupation, to a house or stable appertaining to the city, formerly belonging to S. Mary's abbey, now in the occupation of Garrett Tirell, merchant, in the west. The little cellar under the chamber is in length from the churchyard wall in the south to the partition between the cellar and the stable in the north, 18 feet; and in breadth from wall to wall, 16 feet. To hold for 41 years, at the yearly rent of 35s. 6d. [SEAL.]

(*In dorso*).—"The voyd and loose papers of S. Audoen's arch and Blackney's Inns, belonging to S. Anne's guild."

123. (90) Lease, dated 23 May, 15^o Charles I., made 23 May, by NICHOLAS LOFTUS, Esquire, master of S. Anne's gild, 1639. John Byssie, Esquire, Recorder of Dublin, and Richard

Barrie, alderman, wardens, to ANDREW CLERKE, merchant (said Andrew Clerke having, in obedience to an order of the Lord Deputy and Council, dated 31 May, 1638, delivered up to the master and wardens, to be cancelled, a fee-farm formerly granted), of a great messuage, tenement, and dwelling-house, adjoining to S. Audoen's arch, now in his tenure, with garden and backside, cellars, solars, chambers, rooms, and lights, abutting on the churchyard on the south ; on the arch on the east ; on the highway on the north ; and on a house, lately Peter Harrison's (deceased), on the west—15 yards 1 foot from east to west, and 20½ yards from north to south. To hold for a term of 61 years from the Annunciation of the B.V.M. in the year 1636, at the yearly rent of 8*l*.

Witnesses.—William Malone, William Palles, Ch^r. White, William Purcell, Benjamin Luky, H. Stephins, Andrew Palles, Nich. Loftus, master, Jo. Derensis,¹ Jo. Byssie, warden.

(*In dorso*).—Surrender by Catherine Clarke, widow and administratrix, 25 July, 1661.

Witnesses.—John Dawson, Pat^k. Browne, Barbara Worrall.

124. CHARLES WALLIS, master of S. Anne's gild, Oliver 12 Sept., Tallant, of Dublin, Esq., and Daniel Forrest, of Dublin,

1705. gentleman, wardens, grant to SIMON ANYON, of Dublin, gentleman, a waste piece of ground joining S. Audoen's steeple, called old Crumlin, late in possession of Michael Ball, deceased, bounding on the south to the house belonging to said corporation, now in the possession of the Prebend of S. Audoen's, and the back part of a house belonging to said Simon Anyon, now in possession of Joseph Proctor; on the north to S. Audoen's church; on the west to S. Audoen's lane; and on east to the back part of a house in Corn Market belonging to Ignatius Purcell, of Crumlin, now in possession of Alexander Keane—11 yards from north to south, and 9 yards from east to west. To hold for ever, at the yearly rent of 30*s*.

The gild appoint William Westberry, of Dublin, gentleman, their attorney, to deliver seisin.

Dated 12 September, 1705.

(*In dorso*).—Indented counterpart of lease (fee-farm) to Mr. Anyon, No. VIII.; Ledger, 305.

¹ John Bramhall, bishop of Derry, 1634–1660.

S. FRANCIS-STREET.

125. (100) **HENRY EUSTACE**, master of S. Anne's gild, **Henry 14 Feb.**, White and Thomas Mulghan, wardens, grant to **MATHEW 1487.** **BRENANE**, of Dublin, merchant, a shop with a garden in S. Francis-street, in the suburbs, lying between said street towards the east, and land lately of Dealtri Plunket towards the west; the land of the vicars of S. Patrick's towards the south, and the land of the friars of S. Francis' House towards the north. To hold for 30 years, at the yearly rent of 4*s.*, silver. [SEAL.]
Dated 1 February, 6^o Edward IV.

126. The master and wardens of S. ANNE'S GILD (after reciting **14 Sept.**, that three messuages in S. Francis-street, granted to **1670.** Mathew Goodwyn, late of Dublin, merchant, at a rent of 15*s.* 6*d.*, afterwards came to Christopher White, of Dublin, alderman, deceased, and so continued in fee-farm to 1639, when he surrendered and accepted a lease from the gild, as of four messuages on the King's pavement on the east to the ground of Donbeight on the west; from the Town ditch on the south, to S. John's ground on the north—26½ yards from east to west, and 33 yards from north to south, all which by conveyances came to William Higgins, deceased, and is now come to sir Paul Davys; and further reciting that the premises were demolished since the rebellion, and that two houses had been erected since the Restoration; and the Gild, by order of 26 July, 1653, entered in the Gild book, fol. 94*B*, ordered that all ancient estates were to be restored, Paul Davys petitioned, and by Gild order of 26 July, 1670, he was to have a fee-farm), now grant said sir PAUL DAVYS, H. M. Principal Secretary of State for Ireland, the above premises, to hold for ever, at the yearly rent of 15*s.* 6*d.*

Dated 14 September, 1670.

(*In dorso*).—No. I, Ledger folio, 195.

[For premises in S. Francis-street, see also No. 119.]

S. GEORGE'S-LANE.

127. (581) Lease, dated 2 May, 1571, **NICHOLAS FITZ SIMON**, **2 May,** alderman, master of S. Anne's gild, Patrick Gygen and **1571.** sir George Bruen, chaplain, wardens, to **JAMES FITZ SIMON**, son of said Nicholas, of two gardens, by east the lane called

S. George's-lane, in the suburbs of the city, late in the manurance and occupation of Thomas Barbye, deceased, by demise of the gild. To hold for 61 years, at the yearly rent of 4s.

Witnesses.—John Kerdiff, Tho^r. Fitz symond, John Luttrell, James Aylmer.

(*In dorso*).—"Ended 1632."

[SEAL.]

ST. JAMES'S PARISH (outside the Bar).

128. (502) MATILDIS, formerly wife of ALEXANDER HOPER,

23 Sept., in her viduity, grants to NICHOLAS DE TYNBEGH, a tenement

1332. in the suburbs of Dublin, in the parish of S. James, in

length between the highway outside the Barrs, and . . .¹

aqueduct of said city; in breadth between the land of Thomas Bagod and the land of John Waleys, parchment maker. To hold for ever, paying 20d. yearly to the Prior and Brethren of the Hospital of S. John of Jerusalem in Ireland.

Witnesses.—John Moenes, mayor, William Twyford, John Callan, bailiffs, John Pass, Thomas Redeman, John Syward, Henry Tonkerd, Henry by the watir, Iraele Gerard, John Waleys, Simon G . .¹ hmond, Thomas Tortel, John Tour.

Dated, at Dublin, Wednesday after the feast of S. Matthew the Apostle. 6^o Edward III. (1332). [SEAL.]

129. (501) NICHOLAS TYNBEGH, clerk, grants to THOMAS LE

20 July, REDMAN and MATILDA WAFRE, his wife, a messuage in the

1336. suburbs of Dublin, outside the Bar, in the parish of

S. James, in breadth between the tenement of John

Waleys, parchment maker, and the tenement of Richard Bokeler; and

in length from the highway to the pipe of the water of the said city.

To hold for ever by the services due and accustomed.

Witnesses.—Master William Beydin, then mayor, Roger Graunt-court and William de Wytherton, provosts, William Douce, Nicholas Bisshope, Gerald Juvene, William Glaswrtch (Glaswright), John Paes, John Toure, Roger Seriaunt, Thomas Cornewaleys.

Dated at Dublin, Thursday the feast of S. Margaret the Virgin. 9^o Edward III.

(*In dorso*).—James'-st. The dedys of y^e garding wthout Croker's barrs.

¹ Obliterated.

130. (500) JOHN VYNET, chaplain, grants to THOMAS
4 Oct., POSSEWYK, potter, the premises in No. 129. To hold for
1369. ever by the services thereout due to the chief lords.

Dated, at Dublin, 4 October, 43^o Edward III.

Witnesses.—John Wydon, mayor, Roger Bekeford and John Beke, bailiffs, John Passavaunt, John Grauncestre, Peter Morvyll, John Shellingford, Hugh Possewyk, Richard Giffard, John Cornewalshe. (*In dorso*).—A garding without Croker's Barres.

131. The master and wardens of S. ANNE's GILD grant to
7 April, JAMES GERON, of Dublin, gentleman, a piece or garden
1674. plot without S. James' gate (the inheritance of said gild), in length from the water pipes in the south to the highway in the north; in breadth from the land of Dowdall, of Athboy, in the east, to William Crow's (deceased) lands, concealed from said gild upwards of 25 years, and no rent paid for same; also a small park in CROMLYN called the Cherry Park, from the King's highway on the east, to the lands of John Coyle (deceased) on the west, and from the highway on the south, to the land of Cromlyn on the north, likewise withheld and concealed from the gild for 22 years, and which the gild would have lost but for said Gernon's diligence. To hold for ever, by the services to the chief lords, thereout due and accustomed, at the yearly rent for the plot without S. James' gate of 5s., and for Cromlyn of 5s.

Dated 7 April, 1674.

(*In dorso*).—No. III.; Ledger folio, 234.

ST. KATHERINE'S PARISH. (See No. 119.)

S. KEVIN'S.

132. (92) Lease, dated 29 March, 15^o Henry VIII., from
29 Mar., CHRISTOPHER WSCHER, Dublin, merchant, master of S.
1524. Anne's gild, John . . .¹ bookbinder, and William Byrsall, wardens; to Nicholas Pyppart, Dublin, merchant, of a garden, with a "coldyrhouse,"² beside S. Kevyng's. To hold for 31 years, at the yearly rent of 6s. 8d., and 12d. to the chief lord.
(*In dorso*).—"Nich. Levett."

¹ Obliterated.

² Culverhouse, a pigeon-house.

WINE TAVERN-STREET.

133. (536) THOMAS SMOTH, citizen of Dublin, grants to
30 Jan., RICHARD CURTEYS, Thomas de Donabat, vicar of Naas,
1376. Thomas Wodbryd, Henry Elyot, Thomas Asahe, Adam
 Haket, chaplain, William Forster, Laurence Saresfeld,
 Gilbert Wydbryd, John Wellys, and William Elyot, a cellar in the
 Taverners-st., which he had of the feoffment of Thomas Talbot, knight,
 which formerly was Henry Sherman's; and a stone shop in Cook-st.,
 in which Richard Taillour now lives, which he had of the gift of said
 Thomas Talbot, and which was formerly said Henry's. To hold until
 said Smoth and his heirs, &c., pay in any one day a silver penny to
 said grantees or one of them; on the payment of the penny, it shall be
 lawful for said Smoth and his heirs to enter on the premises.

Dated Tuesday before the feast of the Purification of the B. V. M.
 50° Edward III.

134. (537) JOAN CRUYS, formerly WIFE OF WILLIAM ASSHE-
10 Aug., BOURNE, releases to JOHN WALSH, citizen of Dublin, a
1415. cellar which he holds in the Taverners-st., and all shops
 or selds which he made anew, in Cook-st., parish of
 S. Michael.

Dated 10 August, 3° Henry V.

134B. [1470. The master and wardens of S. ANNE's gild in
 S. Owen's church shall have a void cellar in the Wine
 Tavern-street, which bears 2s. per year to the city, for the term of
 50 years, bearing therefor yearly 4d. during said term, provided the
 cellar be edified with oak and slate within the first two years.]¹

135. (749) NICHOLAS BOURKE, master of S. Anne's gild,
 — **June**, Thomas Noreys, chaplain, and Henry Yonge, wardens,
1470. grant to JANYCO DE MARKYS, citizen of Dublin a cellar
 or old waste place of land, in the Taverners-street, lying
 in said street towards the east, and the old wall of said city towards
 the west; the land of the Hospital of S. John the Baptist, which
 Thomas Fitzsymon holds towards the north, and land lately of Thomas
 Newby, knight, which John Dansey holds towards the south. To

¹ Gilbert's Corporation Records, vol. i., p. 341.

hold for 40 years, at the yearly rent of 4*s.*, silver. Said Janyco undertakes to build a competent house of oak-wood, covered with a stone roof.

Dated . . June, 10° Edward IV.

For premises in Winetavern-street, see also Nos. 63, 64, 66, 70, and 71.

GILD PROPERTY IN THE COUNTY OF DUBLIN.

CARTERSTOWN.

136. (591) JOHN DROMIN and SIMOND DUFF, chaplains,
3 Oct., remise to JOHN WOLTON, of Dublin, his heirs, &c., their
1491. claim in certain lands, tenements, rents of taverns, services,
&c., in Carterston, barony of Castleknock, which they
have of the gift and feoffment of Thomas Wolton, lately citizen and
merchant of Dublin.

Dated, at Dublin, 3 October, 7° Henry VII.

CRUMLIN.

137. (588) THOMAS BODENHAM grants to HUGH GALLANE a
19 Dec., messuage called le Halhey, at Cromlyn, to hold for 50
1346. years from the Nativity of our Lord, in the 20th year of
King Edward III.

Dated, at Dublin, Tuesday before the feast of S. Thomas the apostle,
20° Edward III.

138. (587) THOMAS BODENHAM grants the premises in No.
22 Dec., 137 to HUGH GALLANE. To hold for ever by the services
1346. thereof due and accustomed.

Witnesses.—Wolfran de Bernevall, John Haket, Richard
de Bernevall, Peter Harold, Simon Steuyn, John Milis.

Dated, at Cromlyn, Friday after the feast of S. Thomas the apostle,
20° Edward III.

[SEAL.]

139. (583) THOMAS BODENHAM, of Cromelyn, releases to
23 Dec., HUGH GALLAN, citizen of Dublin, the premises in No. 137
1346. for ever.

Dated, at Cromelyn, Saturday next after the feast of
S. Thomas the apostle, 20° Edward III.

Witnesses.—John Haket, John Balygodman, Wolfran de Bernevall, Richard de Bernevall, Simon Stevyn, John Milis. [SEAL.]

140. (585) THOMAS BODENHAM, of Cromlyn (after reciting 11 Dec., that he had by deed granted to HUGH GALLANE, citizen and 1348. merchant of Dublin, a messuage called le Halhey, at Cromlyn, for 50 years, and having urgent need of money, which said Hugh lent him), now grants said Hugh leave to build houses and messuages thereon, within the said term, and to hold the premises beyond said term until he repay the amount borrowed.

Dated, at Dublin, Monday next after the feast of S. Nicholas the bishop,¹ 20° Edward III. [SEAL.]

141. (589) THOMAS, son of JOHN GALLANE, of Gallaneston, 2 Mar., makes JOHN PACHET, chaplain, his attorney, to deliver

1418. seisin to ROBERT GALLANE, citizen of Dublin, of a messuage called le Halhey, . . .² and 17 acres of arable land in the lordship of Cromelyn (6 acres lying [at Gillyneashill],³ 4 acres at Moryseswey, and 7 acres at le Knokefeld). To hold for ever, as in deed made to said Robert contained.

Dated, 2 March, 5° Henry V.

142. (590) ROBERT GALLANE, citizen of Dublin, quit 6 April, claims to JOHN GALLANE, his son, a messuage called

1448. le [hal]hey, in Cromelyn.

Dated, 6 April, 26° Henry VI.

[For land in Crumlin, see also No. 131.]

KILMAINHAM.

143. (593) JOAN BARRY, in her viduity, grants to PETER 10 May, ABBEY, citizen of Dublin, a messuage and garden in the

1434. town of Kilmaynane, in length from the highway towards the north, to the land of John Coke towards the south; in breadth, it lies near the water called Austeyn's lake on the east up to the land of John Coke on the west. To hold for ever.

Dated 10 May, 12° Henry VI.

[SEAL.]

¹ This deed has been placed after Nos. 137–9, as it is evident they preceded it in point of date. St. Nicholas, the bishop, was commemorated on 6th December. It is possible there is a mistake in the festival.

² Torn.

³ See Christ Church Deed, No. 511.

(*In dorso*).—Deeds of S. Ann's house and the garden thereof in Kilmainham.

144. (592) PETER ABBEY, citizen of Dublin, grants to RICHARD
16 Oct., WHITE, citizen and tailor, Dublin, premises in No. 143.

1439. Dated 16 October, 14° Henry VI. [SEAL.]

(*In dorso*).—The deeds of S. Ann's house, &c.

145. (594) Same parties; a release of the premises in
18 Oct., No. 144.

1435. Dated 18 October, 14° Henry VI.

146. (598) JOHN AUDELEY, butcher, son and heir of GEOFFREY
6 April, AUDELEY, late of Dublin, butcher, grants to THOMAS

1459. NEWBY, citizen of Dublin, all his messuages, &c., in Kylmaynane, near Dublin, to hold for ever, of the chief lords

of the fee.

Dated 6 April, 37° Henry VI.

(*In dorso*).—Inrolled in the rolls of Domesday in the time of Robert Burnell, knight, mayor, Thomas Savage and John Higham, bailiffs. 37° Henry VI.

Two seals, one being that of the provostship of Dublin.

147. (599) Release of the premises in No. 146.

9 Apr., 1459. Dated 9 April, 37° Henry VI.

(*In dorso*).—Inrolled in Domesday.

Two seals, one being that of the provostship of Dublin.

148. (595) THOMAS AUSTEYNE, of Kylmaynane, grants to
29 May, PATRICK WELLYNGTOUN, clerk, a quarter of a burgage

1483. within the lordship of Kylmaynane, lying in length from the highway that leads from Kylmaynane to Dublin on the north, up to the land formerly Geoffrey Awdeley's on the south; and in length from said Geoffrey's land on the east, to land called Cartersland on the west. To hold for ever.

Dated 29 May, 1483.

149. (597) THOMAS AUSTEYNE makes JOHN MOLEUX, clerk, his
29 May, attorney, to place PATRICK WELLYNGTON in seisin of the
1483. premises in No. 148.

Dated 29 May, 1483.

[SEAL.]

150. (596) Release of the premises in No. 148.

31 May, 1483. Dated 31 May, 1483.

[SEAL.]

151. (538) JOHN WALYNGTON, chaplain, son and heir of
 6 Oct., Patrick Walyngton, clerk, and AGNES PERPYN, late wife of
 1521. said Patrick, release to NICHOLAS QUEYTROT, master of
 S. Anne's gild, Thomas Cale, chaplain, and John Caudell,
 merchant, wardens, quarter of a burgage within the lordship of
 Kilmaynane, as it lies in length from the highway leading from Kil-
 maynane to Dublin on the north, to the land of Geoffrey Awdeley on
 the south; and in breadth from the land of said Geoffrey on the east
 to the land called Cartersland on the west.

Dated 6 October, 13° Henry VIII.

[TWO SEALS.]

152. (104) THOMAS COLIER, master of S. Anne's gild, John
 24 Dec., Ray and Richard Pecoke, wardens, grant to RICHARD
 1486. BRON, citizen and merchant, a messuage, croft and dove-
 house in the town of Kilmaynan, in breadth from the land
 of Thomas Talbot, lord of Malahide, on the west, to the land of
 William Birton on the east; and in length from the highway on the
 north, towards the land formerly John Carter's on the south. To
 hold for 41 years, at the yearly rent of 6s. 8d.

Dated the vigil of the Nativity of our Lord, 2° Henry VII.

[SEAL.]

153. (102) THOMAS HUMFREY, Dublin, merchant, master of
 1 June, S. Anne's gild, sir Patrick Dowlyn, priest, and John
 1513. Colman, wardens, lease to WILLIAM HELYN and MARION
 HIS WIFE, a messuage with a "colvyrhouse,"¹ a garden,
 and stang of land in the town and fields of Kylmaynan, bounding on
 the east and south to the land of Rose Walche, on the *west*² to the
 lane leading to Dame's gate, and on the north to the highway from
 Kylmaynan to Dublin. To hold for 51 years, at the yearly rent of
 5s. 4d., with a covenant that grantees are to build a sufficient house
 of eight bays.

Dated 1 June, 5° Henry VIII.

154. (96) Lease, dated 8 March, 18° Henry VIII., made
 8 Mar., by PATRICK FITZ SYMON, Dublin, merchant, master of
 1527. S. Anne's gild, William Queytrot and Edmond Herford,
 merchants, wardens, to WILLIAM HELYNG, tailor, of a
 messuage with a garden in Kilmaynan, in length from the highway on

¹ Culverhouse, a pigeon-house.

² So in original.

the north to the ground of Annes Porpen on the south ; and in breadth from the Austen stream on the east to the ground of Annes Porpen on the west. To hold for 31 years, at the yearly rent of 4*s*. [SEAL.]

(*In dorso*).—Wm. Hellyng, tailor, of Kilmainham, Thos. Stephyns.

155. (98) Lease, dated 30 September, 36° Henry VIII.,
30 Sept., made by WALTER TYRRELL, Dublin, merchant, master of
1544. S. Anne's gild, Walter Barby and Robert Goldyng, Dublin,
merchants, wardens, to JOHN SCHARPE, of S. Thomas-
street, of two parks or closures of pasture, within the lordship of
Kylmaynan, one lying in length from a meadow of William Talbott of
Roberhyston, on the east, to said William's land on the west; and from
the highway by Duffyngsberne on the south to said William Talbott's
lands on the north; the other park in length from said William
Talbott's land on the south to the meadow of Robert Pluncket, of
Dwnsany, on the north; unto said William Talbott's lands on the east,
and to the lands of Kylmaynan and Plunckett's lands on the west. To
hold for 31 years, at the yearly rent of 21*s*.

(Signed), JOHN SHARPE.

156. (60) Lease, dated 10 October, 1546, from NICHOLAS
10 Oct., WMFFREY, Dublin, merchant, master of S. Anne's gild,
1546. Walter Barby and Clement Halman, Dublin, merchants,
wardens, to EDMONDE MORGHOW, of Kylmaynan, husbandman, of the
"little farm" in Kilmaynan with 26 acres thereto belonging, for
31 years, at the yearly rent of 6*s*. 6*d*.

157. (101) NICHOLAS UMFRE, of Dublin, merchant, master
18 Jan., of S. Anne's gild, Clement Halman and Walter Barbe,
1547. merchant, wardens, let to farm to THOMAS STEPHENS,
Dublin, merchant, the premises in No. 153 now held by him; to hold
for 61 years, at the yearly rent of 5*s*. 4*d*.

Dated 18 January, 38° Henry VIII.

[SEAL.]

158. (59) Lease, whereby MICHAEL [CHAMBERLIN], master of
31 Jan., S. Anne's gild, sir John Tyrrell, knight, and Richard
1603. Gerrote, merchant, wardens (after reciting that Walter
Sedgrave, late master of the gild, Mathew Handcocke and
Lawrence Enose, wardens, had in 1593 granted to Michael Chamber-
lyne the "great farm" near Killmaynname, 58 acres, for 61 years

from 1613), grant to ROWLAND CHAMBERLYNE, son of said Michael, the said premises, for 61 years from the termination of said recited lease, at an augmented rent of 13s. 4d., in addition to 13s. 4d. old rent.

Witnesses.—Nich. Ball, Mat. Handcock, Edm. Purcell, John Goodwinge.

Dated 31 Jan., 1603.

(*In dorso*).—Lease ending 1715.

159. (57) Deed, dated 10 May, 1621, whereby (in consideration of a fine) THE GILD OR FRATERNITY OF THE CHAPEL 10 May, 1621. OF S. ANNE in the church of S. Audoen, Dublin, grant to EDWARD JAMES, sheriff of Dublin, Esquire, 26 acres arable land in Kylmainhame, near Dublin, commonly called the "small farm." To hold for ever, in fee-farm, at the yearly rent of 20s. The Gild appoint Thomas Scurlock and William Pallees, Dublin, merchants, attorneys to deliver seisin.

Witnesses.—Michell Chamberlyne, Luke Plunkett, Rowland Chambirlyne, Thomas Plunkett, master, Edm. Malone, warden, H. Stephins, warden, Ric. Ashe, Mar. Stephins, Katherin Barwell.

Memorandum of seisin endorsed.

(Endorsed).—On 9 September, 1664, Sir William Domville, knight, attorney-general, surrendered this Indenture and the lands therein, into the hands of the gild. WILL. DOMVILLE. [SEAL OF GILD.]

Witnesses.—Thomas Merile, J. Gernon.

NUTSTOWN.

160. (106) EDWARD SALE, Dublin, merchant, and ISABELLA 18 Oct., BOSSHIER of same, widow, grant to the MASTER AND WARDENS 1478. OF S. ANNE'S GILD, all the messuages which they have in Notteston, Co. Dublin, for the life of John Shortals, Philip Cusak, Andrew White, Clement Fitzleones, Peter Prendergast, Richard Wodlok, and Walter Blake, for 30 years. Rent, a grain of corn, to be rendered on the Nativity of S. J. B.

Dated 18 October, 18° Edward IV.

SAUCERSTOWN.

See No. 23.

APPENDIX II.

LIST OF THE MASTERS AND WARDENS, 1485-1740.

Compiled from the foregoing Deeds, &c.

| MASTER. | WARDENS. |
|-------------------------------|--|
| 1435. John Burnell. | Robert Wode, David Rowe. |
| 1450. Robert Burnell. | William Crampe, William Graas. |
| 1467. Henry Eustace. | Henry White, Thomas Mulghan. |
| 1468. Thomas Wolton. | Henry White, Henry Yonge. |
| 1470. Nicholas Bourke. | Thomas Noreys, chaplain, ¹ Henry Yonge. |
| 1478. Thomas Mulghan. | Walter Piers, William Grampe. |
| 1482. Nicholas Bourke. | Richard Barby, Henry Mole. |
| 1486. Thomas Colier. | John Ray, Richard Pecoke. |
| 1488. Harry White. | John Whyte, Richard ———. |
| 1489. John Seriaunt. | Richard Pecoke, John Whyte. |
| 1511-1512. Thomas Bermingham. | Sir Thady Cor, chaplain, William ———. |
| 1512-1513. Thomas Humfrey. | Sir Patrick Dowlyn, John Colman. |
| 1513-1514. Nicholas Herbarte. | Sir Patrick Dowlyn, chaplain, Henry Russell. |
| 1521. Nicholas Queytrot. | Thomas Cale, chaplain, John Caudell. |
| 1524. Christopher Uscher. | John ———, William Byrrell. |
| 1527. Patrick Fitzsymon. | William Queytrot, Edmond Herford. |
| 1529. Henry Gaidon. | Nicholas Umfre, Sir Thomas Cale, chaplain. |
| 1531. Nicholas Queytrot. | Thomas Phillipe, Henry Tayllor. |
| 1534-1535. James Fitzsimon. | Sir Thady Cor, Sir William Drouet. |
| 1535-1536. James Fitzsymon. | Mathew Godyng, Clement Halman. |
| 1536-1537. Thomas Barby. | Mathew Godyng, Clement Halman. |
| 1537-1538. Thomas Barby. | Harry Gawrane, chaplain, Clement Halman. |
| 1538-1539. Nicholas Quaytrot. | Harry Gawrane, chaplain, Clement Halman. |
| 1544-1545. Walter Tyrrell. | Walter Barby, Robert Goldinge. |
| 1546-1547. Nicholas Homfray. | Walter Barby, Clement Halman. |
| 1550. Nicholas Homfrey. | George Brune, chaplain, Walter Barby. |
| 1552. Henry Plunkett. | Sir George Brune, John Wallingford. |
| 1554. Tade Duffe. | Sir George Broune, chaplain, John Wallingforde. |
| 1559. Robert Golding. | Richard Galtryme, Thomas Verdon. |

¹ It will be observed that the gild chaplains frequently filled the post of Warden. As a commentary on this practice, it is interesting to note that in 1384 the gild of the Holy Trinity in Holy Trinity Church, Cambridge, ordained that no ecclesiastic, above all one in Holy Orders, should hold office or administer gild property—"Non deceat nec liceat clericis negociis secularibus se aliquatenus inmisceri." *Cambridge Gild Records*, 1903, ed. Miss M. Bateson.

| | | |
|-------------------------|----------------------|--|
| 1564. | Thomas Fitzsymon. | Patrick Mey, Sir George Brune, chaplain. |
| 1568. | Nicholas Fitzsymon. | Sir George Brune, chaplain, Patrick Gygon. |
| 1569-1571. | Nicholas Fitzsymons. | Sir George Browne, chaplain, Patrick Gygene. |
| 1593-1594. | Walter Sedgrave. | Mathew Handcock, Laurence Enose. |
| 1598. | Michael Chamberlene. | John Tirrell, Richard Gerrot. |
| 1601. | Michael Chamberlkn. | John Tyrrell, Richard Gerrote. |
| 1603. | Michael Chamberline. | Sir John Tyrrell, knight, Richard Gerrote. |
| 1621. | Thomas Plunkett. | Edmond Malone, H. Stephins. |
| 1626. | Edmond Malone. | Hen. Stephins, Luke Plunkett. |
| 1633-1634. | Edmond Malone. | Nicholas Stephens, Christopher White. |
| 1638-1641. ¹ | Nicholas Loftus. | John Bysee, recorder, Richard Barry. |
| 1641-1643. | Christopher White. | William Ball, William Purcell. |
| 1643-1651. | William Ball. | |
| 1651-1655. | Raphael Hunt, mayor. | William Smyth, Peter Wybrants. |
| 1655-1657. | William Smyth. | Peter Wybrants, Patrick Tallant. |
| 1657-1658. | Peter Wybrants. | William Dixon, John Borr. |
| 1658-1663. | Richard Tighe. | William Dixon, John Borr. |
| 1663-1665. | William Smyth. | William Dixon, John Borr. |
| 1665-1666. | William Smyth. | Sir William Dixon, John Borr. |
| 1666-1668. | William Smyth. | John Borr, Thomas Springham. |
| 1668-1669. | William Smyth. | John Borr, Warner Westenra. |
| 1669-1672. | William Smyth. | John Borr, Daniel Byrne. |
| 1672-1673. | Peter Wybrants. | John Hawkins, ———. |
| 1673-1677. | Peter Wybrants. | John Hawkins, James Springham. |
| 1677-1681. | John Borr. | Michael Chamberlaine, Robert Ball. |
| 1681-1682. | John Eastwood. | Michael Chamberlaine, Robert Ball. |
| 1692. | Peter Wybrants. | Peter Desmyniere, Thomas Howard. |
| 1700. | Charles Wallis. | Christian Borr, John Quinn. |
| 1705. | Charles Wallis. | Oliver Tallant, Daniel Forrest. |
| 1721. | Philip Percival. | George Ball, Terence Geoghegan. ² |
| 1722. | Philip Percival. | Right Hon. Richard Tighe, James Somerville. |
| 1740. | Isaac Ambrose. | William Tighe, John Ball. |

¹ The list 1638-1682 is taken from an answer of the Master and Wardens to a Bill in Chancery of the Prebendary of St. Audoen's, 16 June, 1682.

² From Journal, House of Commons.

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NOTE ADDED IN PRESS.

CHURCH CLERK, pp. 43, 45 (Nos. 10, 13).

The holy loaf was blessed after the holy water on Sundays, and the deliverance of it was the ground of a demand by the parish clerk for holy loaf halfpenny. At Coventry, one clerk had to see the holy loaf out, and he distributed to those on the north side of the church; the second clerk to those on the south side.—*See The Clerk's Book of 1549*, ed. J. Wickham Legge. (Henry Bradshaw Society.) Lond. 1903.

This ancient custom still prevails in certain parts of Normandy and Brittany.



WESTERN DOORWAY OF KILLINEY CHURCH,
showing latin cross on soffit of lintel in line with centre of eastern window
of chancel.

IV.

NOTES ON THE ARCHITECTURAL DETAILS AND
ORIENTATIONS OF THE OLD CHURCHES OF KILL-
OF-THE-GRANGE, KILLINEY, AND ST. NESSAN,
IRELAND'S EYE.

BY J. P. O'REILLY, C.E.

PLATE II.

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IN the Paper submitted to the Royal Irish Academy, the 22nd February, 1903, "On the Orientation, &c., of the Old Churches of Dalkey Island and of Dalkey Town," the description thereof by Wakeman, in the Paper by him therein cited, was taken as a text. In it he also makes mention of the old churches of Kill-of-the-Grange and of Killiney; and points them out as remarkable by their evident antiquity, and the interest attaching to the details of their architecture. Having, in my Paper on the Dalkey churches, arrived at certain conclusions as to the significance of their orientations, and as to the unit of measurement which had been employed in the construction of the old church of Dalkey Island, and showed it to have been the Spanish vara of 835 mm. (2' 8.88"), I was led to examine in a similar way such other ancient churches as are existing in the neighbourhood of Dublin, and which would be likely to illustrate and lend support to the conclusions arrived at in the Paper before mentioned.

I commenced with the Kill-of-the-Grange, and made a plan of the old nave as it now stands. Of the chancel so little remains that nothing well-defined or satisfactory for purposes of comparison could be made out. This old structure fully bears out the statements made concerning it by Wakeman, and would fully justify the making of a completely detailed plan, with sections and elevations, as a matter of historical record. Being, however, concerned only with certain of its details, my attention was more particularly confined to these, to the exclusion of others, interesting in themselves, but which did not bear on the object of the present Paper.

The old building has evidently suffered much by alterations made at different times, as well as by the actual destruction of certain parts, evidently, amongst other purposes, for procuring headstones or covering-stones for graves and such like. The western doorway has seemingly been tampered with. The actual height of the opening, 134 cm. (4' 4.96"), is less than might be expected in comparison with similar doorways in the other old churches mentioned by Wakeman. It would seem as if the lintel, which most probably was a large single stone of granite, had been taken out to be used as building-material or as a headstone, and the present poor mica-schist lintel put in its place, with consequent loss of height in the doorway, and therefore deterioration of its original proportions. It presents still, however, the trapezoidal form due to its inclined jambs; and it also allows of the "batter" of the wall being very distinctly recognized. The present dimensions of this doorway are as follows: height, 134 cm. (4' 4.96"); breadth of opening on sill, 90 cm. (2' 11.43"); same under lintel, 87 cm. (2' 10.4"); thickness of western wall at ground, 86 cm. (2' 9.86").

As the building stands at present there are several openings, or indications of openings, which seemingly have been made at different times; the principal ones are represented in the plan herewith submitted. At the south-eastern end of the nave there are two of these quite different, the one from the other, in their characters and details, and therefore, it may be inferred, not contemporaneous; that seemingly the original or more ancient one is situated relatively high up in the south wall above the ground, and presents a comparatively narrow opening of 13 cm. width (5.12"); its height being 84 cm. (2' 9.07"); the head is rounded, and the interior splay is of 84 cm. in width (2' 9.07"); the material of the masonry is relatively small and even in size. This window or opening may have served for the same purposes as that described in the Paper on "Dalkey Town Old Church"; that is, not only for affording light on the altar, but also for the determination of certain days or dates, by means of the incidence and form of the sunlight patches on the floor or opposite wall; but, in consequence of its present ruined state on the inside face of the wall, and the absence of any indication as to the saint to whom the church may have been dedicated, no conclusion can in this respect be arrived at. What is remarkable is the character of the window situated immediately under it, which is evidently much more recent, as evidenced by the rectangularity of its outline, its greater width, and more perfect finish as regards the stones which form the sill,

jamb, and lintel. Its position in the wall, so relatively low and near the level of the former floor, is also remarkable, and certainly suggests an intention in the builders other than that of merely supplying light. On the inside it is also in a ruined state, so that no appreciation may be attempted as to the ends that it was intended specially to fulfil. The absence of symmetry in its axis as regards that of the upper and probably more ancient opening is worth noting.

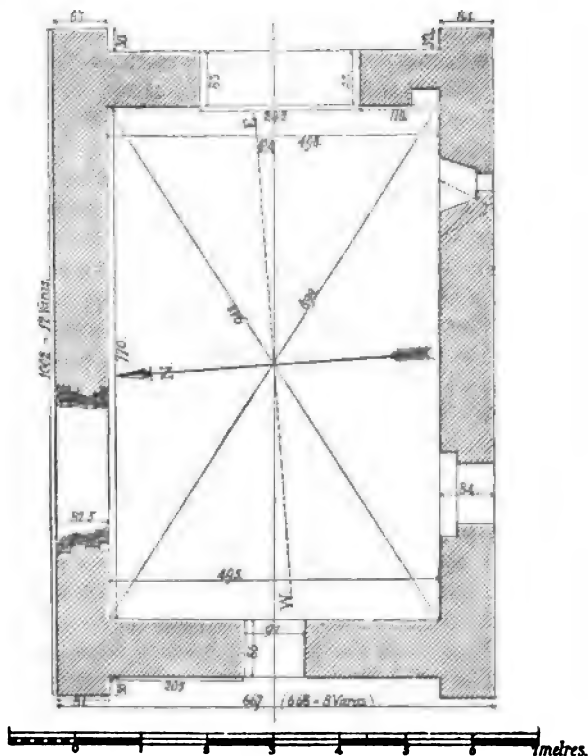


FIG. 1.

Plan of old Church of Kill-of-the-Grange, Co. Dublin.

The *antæ* or prolongations east and west of the side-walls are fully as well characterized in this ruin as in the old church of Dalkey Island, and they project about the same amount, that is, from 30 cm. to 32 cm. (11·81" to 12·6"). The unit of measurement seemingly employed in the laying out of this church originally appears to have

been the Castilian Vara; and the dimensions carefully taken and herewith given, in the accompanying plan, support the conclusion arrived at, in this respect, in my Paper on Dalkey Island church, already referred to. As shown in the plan (fig. 1), the breadth of the nave is eight varas, 16' 11"; and the length, twelve varas, 24' 6½". The style of the masonry, in conjunction with these characters as just detailed, would tend to show that the building dates back to a period probably as early as that of Dalkey Island church. Time, the luxuriant vegetation which the nature of the soil and the shelter favour, the ever-invading ivy, and the rude and thoughtless hand of man, are all together helping to hasten its complete ruin, unless, indeed, some counteracting influence be brought to bear in time to save from utter destruction this most interesting archæological remainder. The orientation was determined to be about 4° 8' south of due east, and can be accounted for as the error naturally arising from the position of the site, which, by reason of the impediments presented, either in the form of vegetation and trees, or of undulating ground, hindered a clear view on to the eastern horizon, so that the rising sun at equinox was not visible from the site until after it was already some degrees above the horizon, and consequently some degrees to the south of due east.

The church of Killiney is also mentioned in Mr. Wakeman's Paper already cited; and he particularly calls attention to the Roman cross which is cut in relief on the under-face of the lintel of the western doorway. This old church is remarkable in the respect of having no history to speak of, and yet as showing manifest evidence of much use and continued frequentation, both by its extent, the changes which it seems to have undergone, and the vicissitudes that it furnishes clear indications of. Mr. F. E. Ball, in his excellent and carefully-detailed "*History of the County Dublin*," thus speaks of it:—"The ruined church of Killiney has been pronounced by Dr. Petrie to be coeval with the oldest of the buildings of Glendalough, and to date from the sixth century. The original structure consisted of the nave and chancel; and to it were added, many centuries later, an aisle on the northern side. The primitive doorway in the western end, which bears on the soffit of its lintel a cross, the choir arch, and the east window are all very characteristic of early Irish church architecture (Petrie's essay on the 'Round Towers,' p. 170). The name of *Cill-inghen-Leinin*, the early form of '*Killiney*,' indicates that the church was founded by Leinin's daughters, five holy women, whose names, according to the '*Martyrology of Donegal*,' were

Druigen, Luigen, Luicell, Macha, and Riomhach (6th March); and who are supposed to have flourished about the sixth century. Together with the lands, the church came into the possession of the Priory of the Holy Trinity before the English Conquest (Norman Invasion?), and was subsequently confirmed to it by the Archbishop of Dublin and the Pope. After the dissolution of the priory, it became a portion of the dignity of the Dean of Christ Church; and appears to have been served in the sixteenth century by the chaplains of Dalkey. At the beginning of the seventeenth century, in 1615, it was roofless, as it has since remained."

On page 96 of vol. i., Mr. Ball gives an excellent photo-engraving of the western doorway: (see also O'Hanlon's "Lives of the Irish Saints," vol. iii., p. 196). The plan of this church herewith submitted (p. 112) presents characteristics of marked interest. The western door (of which a photo-engraving is given, as already stated by Mr. Ball, in his "History of the County Dublin," vol. i., p. 96) is well preserved, and presents the following dimensions: height from sill to soffit of lintel, 187.5 cm. (6' 1.87"); breadth at sill, 72 cm. (2' 4.35"); breadth under lintel, 61 cm. (2'); thickness of western wall on sill (south side), 83.5 cm. (2' 8.88"), (north side) 84 cm. (2' 9.07"); thickness of wall under the lintel (south side), 79 cm. (2' 7.1"), (north side) 78 cm. (2' 6.71"). The batter of the wall is therefore very well marked, and so far favours the presumed antiquity of the building. The material employed is much the same as that of the church on Dalkey Island, that is, granite roughly worked, and the mica-schist of the neighbouring hill, and that now to be found in Killiney Park, with the use of abundant "spawls." The present south-eastern window of the nave is relatively large, mullioned, and well worked in granite, with full splay on the interior side; it may be taken as of relatively recent construction. There is no trace of there having been a small narrow opening here, as occurs in the other churches already described. The chancel, however, shows an opening at its south-east corner, but in a ruined state, so that the original dimensions cannot now be determined; the remaining edge of the window is at 161 cm. (5' 3.39") distance from the exterior south-eastern corner of the building, and therefore is comparable in this respect to the corresponding opening of Dalkey town church, as described in my previous Paper. The eastern opening of the chancel is well preserved, has an aperture of 16 cm. (6.3"), and a height of aperture of about 76 cm. (2' 5.92"), with perpendicular jambs, and so far showing no inclination of these sides. The splay on the interior is about 86 cm.

(2' 9·86"); but, on account of the ruined state of the work on this side, this measure can only be approximated. On the north side of the

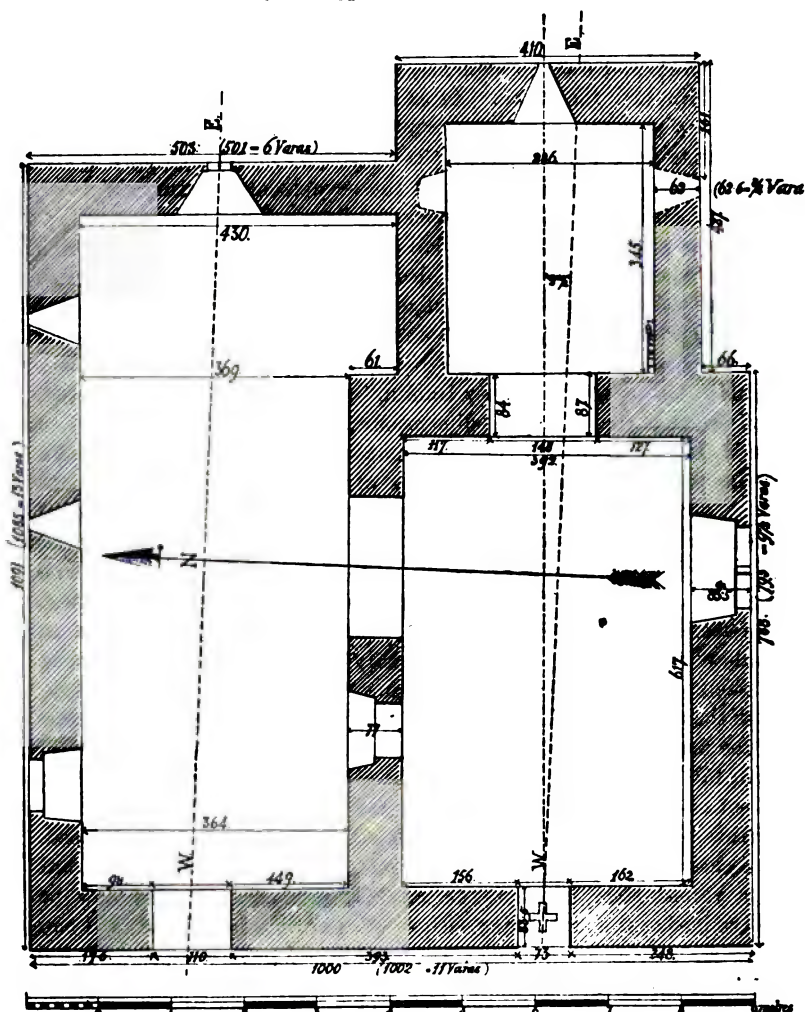


FIG. 2.

Plan of old Church of Killiney, Co. Dublin.

chancel there is an opening or cavity, as if for an intended window or light, nearly opposite the south-east opening, but with the walls

in a partially ruined state. Wakeman and Petrie seem to have considered this chancel as being contemporaneous with the nave ; but the thickness of the wall, 62 cm. (2' 0·41"), (62·5 cm., 2' 0·6" = $\frac{1}{2}$ vara), the quality of the masonry, and more especially the broken line of junction with the walls of the nave shown on the interior face at the south-west corner of the chancel (see fig. 2), where the remains of the nave side-wall still project in jagged outline 8 cm. (3·15") beyond the present chancel wall, point either to a reconstruction or at least to a discontinuance or suspension of the original design. Besides, there is hardly any evidence of bonding with the walls of the nave ; nearly at all points there is simply juxtaposition. It is the same as regards the junction of the aisle with the nave and chancel. This aisle was evidently a recent addition, and seemingly underwent more than one handling. There are two narrow openings in the northern wall of this aisle which look very old, the aperture being about 15 cm. (5·9") in each. The north-west doorway, with its pointed arch and cut-stone dressing, is evidently recent. Of the western doorway of the aisle there practically remains but a portion of the southern jamb ; its opening presented a width of 110 cm. (3' 7·3"). So far as concerns the object of the present Paper, it is the dimensions of the building and the orientation which are of interest. The former show very distinctly evidence of the use of the "vara" unit, both as regards the details as well as regards the general dimensions. There is one very remarkable circumstance as regards the dimensions of the nave, the signification of which is not at once apparent ; it is the absence of symmetry of the walls of the building, as regards its central axis ; whether this was originally intended or is the result of subsequent alterations is by no means clear. The orientation as determined by hand-compass was found to be about 3° north of due east and west, and can hardly be taken as corresponding to the direction of the rising sun on the festal day of the saint whose name the church bears, the daughters of Leinin (6th March), which would correspond to a *southern* declination of about 6°. Hence it follows that the visual passing through the central line of the western doorway of the nave, and through the eastern opening of the chancel as it now stands, on to the horizon, would not give the correct day of equinox, but would correspond to about the 26th or 27th March, instead of the 21st. That is, on the presumption that such was the original intention of the builders, and not taking into account the ancient errors as regards the day of equinox and the subsequent corrections in the calendar.

As regards the visual line in question, it may be observed that the

Latin cross cut in relief on the soffit of the lintel of the western doorway may have been intended to fix the point where the observer should stand in order to make the observation of the rising sun on the horizon, on the day of equinox, as indicated in the sketch of the doorway and eastern opening in question (Plate II). It may also be observed that the aperture of this eastern window would allow of the sun being seen through it from the point referred to, at its rising, on one day only in the year. This use of the cross would so far correspond with that of the incised cross on the rock in front of the church on Dalkey Island, referred to in my Paper on that building. Reference may also in this respect be made to the woodcut of the doorway in St. Mary's church, Glendalough, given in Joyce's "*Social History of Ancient Ireland*," vol i., p. 318 (and mentioned as being taken from the *Journal* of the R. Soc. Antiq. Ireland, 1900, p. 310); in this case the diagonals of the soffit are represented in relief, and their intersection at the centre is marked by a rosette in relief. The other details are almost identical with those given in the sketch of Killiney church herewith submitted, and suggest an intention of obtaining a correct line of orientation or observation for equinox. That there was such an intention of making use of this eastern opening of Killiney church for the observation of the rising sun on the day of equinox is to some extent supported by the relation of the eastern window of the aisle to the western doorway thereof. This window is not only wider and in every respect more recent-looking than that of the chancel, but it was also divided and protected by a middle vertical bar, of which the socket is still visible in the sill of this window. Now, a line through the middle of the western doorway of the aisle, and through the bar of the eastern window thereof, gives a true east-and-west line; and it is probable that it was used for a more correct determination of the equinox than could be attained by the use of the corresponding line of the nave and chancel already considered.

The church of St. Nessan on Ireland's Eye was also examined; but having been fully and critically described by Mr. Cochrane in his Paper which appeared in the *Journal* of the Roy. Soc. of Antiquaries (*Journ. R. Soc. Antiq. Ireland*, 1893, p. 396), there was only left for examination the evidences existing as to the unit of measurement employed in the construction of the building. As pointed out by Mr. Cochrane, the restorations have been such, and so extensive, that one can hardly even trust the present thicknesses of the walls as representing those of the original walls. The western doorway gave a thickness of wall at the sill of 82.5 cm. (2' 8.88"); while, under the

lintel, it showed 84·5 cm. (2' 9·27") on one side, and 85 cm. (2' 9·46") on the other, or a mean of 83·8 cm. (2' 9"), for these measurements, that is, very nearly the "vara" value of 83·5 cm. Neither the length nor the breadth of the nave shows, in their present condition, any noticeable relation of dimension with the "vara" unit. As to the orientation, which might be expected to be relatively correct, considering that the building is near the level of the sea, and that no obstacles of any importance interpose themselves between it and the eastern horizon (it being also assumed that the original intention of the builders was to orient the church due east and west), such seemingly was not the case, as the orientation was found to be E. 12° 52' north, which would correspond to about the 25th April or 20th August. As regards these dates, O'Hanlon's "Lives of the Irish Saints" gives for the *24th April*, St. Flann, "son of Nesson" (article xi.), ("probably in the seventh century"); article xiii., St. Flann, abbot of Iona, Scotland (ninth century), abbot of Hy.

As regards the unit of measurement employed in the construction of the churches described in this Paper, and in the preceding on the churches of Dalkey, and the conclusion arrived at that it was the Castilian "vara" of 835 mm., it is important here to refer to the excellent article given in Smith, Wayte, and Marinden's "Dictionary of Greek and Roman Antiquities" under the word *mensura*. After a full discussion therein of the data existing as to origin of the various units of measure known to the ancients and cited by the authors, they say (p. 152, vol. ii.):—"In Western Europe we find three foot-standards, the ITALIAN, proved, from the writings of the *Gromatici* (surveyors) and from buildings, to be about 275 mm.; the ROMAN, known to us from actual measures to be 296 mm.; and the *Pes Drusianus* used by the surveyors in Gaul and Germany, and = 333 mm. It will be seen (they continue), from the tables accompanying the article, that the Attic and Roman standards are practically identical, that so also the *Pes Drusianus*, the ποὺς φιλεταίρειος, the Æginetan foot and the Ionian foot, are almost identical; whilst the Italian foot is almost identical with the Phrygian foot of 277·5 mm." Now the Castilian foot = $2\frac{3}{4}$ mm. = 278·3 mm. (10·95"), and consequently for all purposes of measurement of buildings of the antiquity and character of the churches described in my previous Paper on Dalkey Island church and in the present Paper, or indeed of any ancient building existing in Ireland, the Castilian foot and the Phrygian here mentioned may be taken as identical.

There is, however, another Spanish foot that may be mentioned.

In the Galician Dictionary of Juan Cuveiro Piñol (Barcelona, 1876), under the word "vara," it is stated: "Vara Gallega: 100 varas de Santiago hacen 103 varas de Castilla"; *i.e.*, 100 varas of Santiago (ancient capital of Galicia) make 103 varas of Castile; hence the Galician foot = $278.3 \text{ mm.} \times 1.03 = 286.6 \text{ mm.}$ (11.28"), and the Galician "vara" = 859.95 mm., or practically 860 mm. (2' 9.86"). This fact of itself would not perhaps be of immediate significance were it not that the dimension of 86 cm. presents itself more than once in the measurements of the churches examined by me, and, on account of the relative closeness of approximation to the Castilian vara = 835 mm., could hardly be distinguished from it with certainty. Moreover, bearing in mind the Irish traditions of a former connexion of this country with Spain, and in particular with Galicia as the point of contact, and that all the old churches of that country are in the Romanesque style, that is, the style developed in the churches of Ireland of the ninth, tenth, and eleventh centuries, there is a question whether some of these churches were or were not constructed with a Galician vara unit of measurement. The verification of this point would involve a careful measurement of a great number of them—a work deserving to be undertaken in so far as the actual known data may not be considered trustworthy or sufficient for such a purpose.

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December, 1904

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In the year 1902 it was resolved to number in consecutive order the Volumes of the PROCEEDINGS of the Academy, and consequently attention is requested to the following Table:—

| CONSECUTIVE SERIES. | | ORIGINAL NUMERATION. | |
|---------------------|----------------------|----------------------|---------------------------------------|
| VOLUME | I. (1836-1840) is | VOLUME | I. 1st Ser. Sci., Pol. Lit. & Antiqq. |
| „ | II. (1840-1844) „ | „ | II. „ „ |
| „ | III. (1845-1847) „ | „ | III. „ „ |
| „ | IV. (1847-1850) „ | „ | IV. „ „ |
| „ | V. (1850-1853) „ | „ | V. „ „ |
| „ | VI. (1853-1857) „ | „ | VI. „ „ |
| „ | VII. (1857-1861) „ | „ | VII. „ „ |
| „ | VIII. (1861-1864) „ | „ | VIII. „ „ |
| „ | IX. (1864-1866) „ | „ | IX. „ „ |
| „ | X. (1866-1869) „ | „ | X. „ „ |
| „ | XI. (1870-1874) „ | „ | I. 2nd Ser. Science. |
| „ | XII. (1875-1877) „ | „ | II. „ „ |
| „ | XIII. (1883) „ | „ | III. „ „ |
| „ | XIV. (1884-1888) „ | „ | IV. „ „ |
| „ | XV. (1870-1879) „ | „ | I. „ Pol. Lit. & Antiqq. |
| „ | XVI. (1879-1888) „ | „ | II. „ „ |
| „ | XVII. (1888-1891) „ | „ | I. 3rd Ser. Sci., Pol. Lit. & Antiqq. |
| „ | XVIII. (1891-1893) „ | „ | II. „ „ |
| „ | XIX. (1893-1896) „ | „ | III. „ „ |
| „ | XX. (1896-1898) „ | „ | IV. „ „ |
| „ | XXI. (1898-1900) „ | „ | V. „ „ |
| „ | XXII. (1900-1902) „ | „ | VI. „ „ |
| „ | XXIII. (1901) „ | „ | VII. „ „ |
| „ | XXIV. (1902-1904) :— | | |

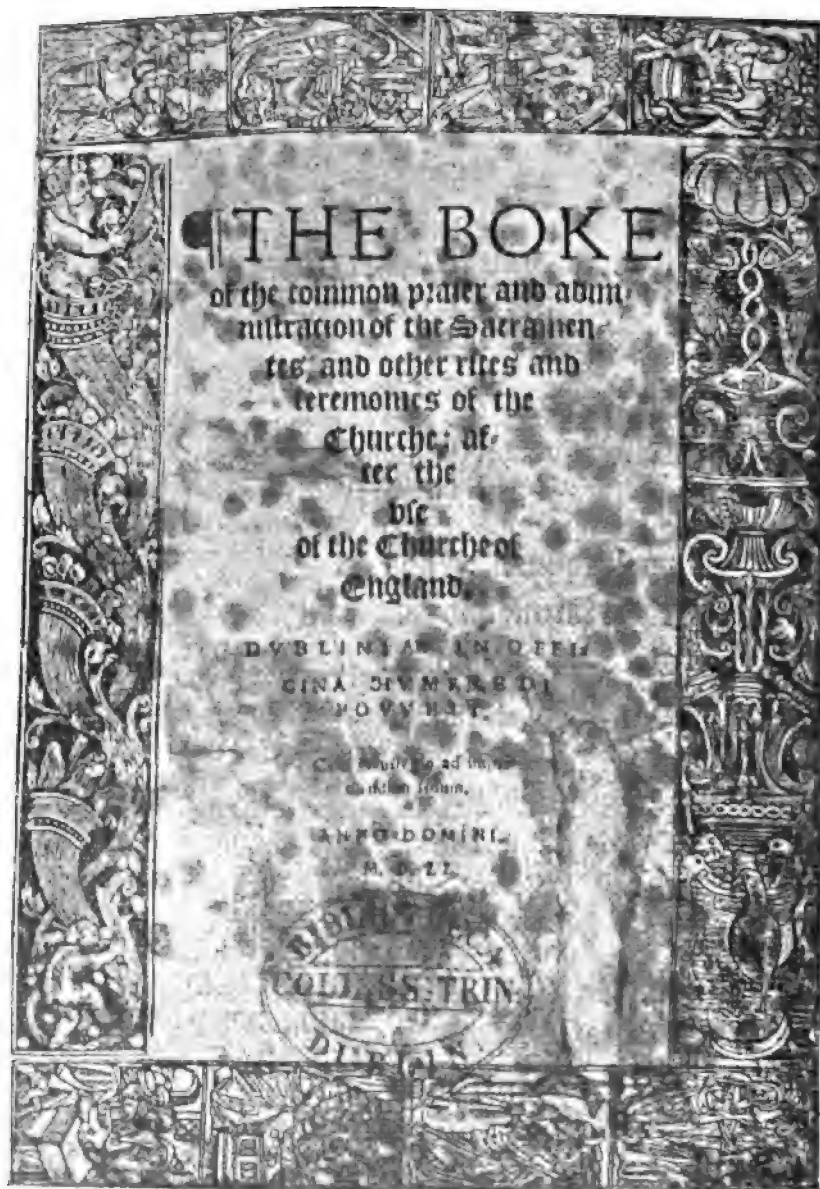
Section A. Mathematical, Astronomical, and Physical Science.

„ B. Biological, Geological, and Chemical Science.

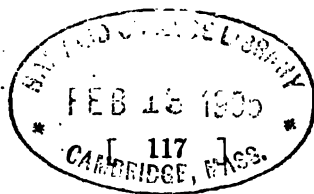
„ C. Archæology, Linguistic, and Literature.

„ XXV. (Current Volume) :—

In three Sections like Vol. XXIV.



TITLE-PAGE OF THE EARLIEST KNOWN IRISH-PRINTED BOOK.



V.

IRISH BIBLIOGRAPHY.

TWO PAPERS BY THE LATE SIR JOHN T. GILBERT, LL.D.

WITH AN INTRODUCTION, NOTES, AND APPENDICES

By E. R. M'CLINTOCK DIX.

[PLATE III.]

Ordered for Publication MARCH 25. Published OCTOBER 17, 1904.

INTRODUCTION.

THE following papers, which were contributed by the late Sir John Thomas Gilbert, LL.D., on separate occasions to meetings of the Royal Irish Academy, were written by this eminent authority in what proved to be the closing part of his life, and were, it is evident, in the nature of introductory papers on a subject of considerable importance and considerable extent.

The two papers form parts of the one subject—the second being a continuation of the first to a later period.

They are now published from the original manuscripts which the author had before him at the time when they were read. In reading them, Sir John T. Gilbert, it is believed, supplemented his manuscript occasionally by verbal communications; but unfortunately, as far as the first paper is concerned, the report that appeared in the daily papers the next day is extremely meagre, and not entirely accurate. Neither paper has hitherto appeared in the Proceedings, owing to the fact that the author intended to add to them, or to contribute further to the subject; but before that could be done his life was suddenly ended. The Council of the Academy having obtained possession of these MSS. retained them for a considerable time, as appears from the dates, in the hope that as the papers and books of Sir John T. Gilbert were being examined and gone through after his death by Lady Gilbert or others, further materials in manuscript might be found which would add to the value of these contributions. Unfortunately nothing of the kind has appeared up to the present time, or is now ever likely to appear.

Therefore, it became a question whether these papers should be left wholly unnoticed, or should be published in their present form. The Council of the Royal Irish Academy has decided to allow these papers to be published, and they now appear in print with this explanation of the reason of the delay in their appearance, and their lack of completeness in form. Any contribution from the pen of so eminent an authority will, however, be heartily welcomed, especially on the subject of Irish Bibliography, for no one had such opportunities of making valuable contributions upon it as he had, having through his long life of unceasing research and toil in various departments of Irish history, and more particularly in the history of his native city, come across many most interesting works by Irish authors printed at various places. Hence these papers and the following Appendices have a special value in the fact that they deal with what Sir John T. Gilbert has dwelt so much upon in them, namely, the works of Irish authors printed not only here but abroad. In this the special value of these papers lies. The reader, indeed, of the following papers who may be at all interested in Irish Bibliography or the history of Irish authors, will be much struck by the fact, brought out so impressively by Sir John T. Gilbert, of the great number of works still extant that were written, printed, and published by our countrymen abroad. A few footnotes are attached here and there where it was thought they might be useful in amplifying the information afforded by the papers. The Appendices A and B consist of a number of titles (very briefly given) selected from the large number of copies of title-pages (over 300) brought together by Sir John T. Gilbert, or obtained for him, and which are at present deposited in the Royal Irish Academy. They are kept together in chronological order, and anyone desiring to pursue this very interesting subject further will find much assistance in going through these title-pages. In almost all cases the title-pages are not only copied, but a careful collation of the work itself follows, and the place where the work itself will be found is generally given in pencil at the left-hand corner. A good deal of the labour connected with this collection of Sir John T. Gilbert was done for him, under his directions, by Mr. John Weldrick. The titles in the Appendices A and B are given from the collection made by Sir John T. Gilbert to illustrate in how many of the towns or cities on the Continent works by Irishmen, or about Ireland, were printed during the two centuries covered by his papers. There are also in the collection titles of works about Ireland whose authors are not Irish, printed chiefly in London, but also in Oxford and Cambridge, with several having no place of printing stated in their

imprints. These have not been given in the Appendix, nor have the London editions of such well-known authors as Ussher, Sir James Ware, Bishop Bedell, Carew, J. Denham, Sall, N. Bernard, H. Dodwell, George Walker, Richard Cox, N. Brady, William Molyneux, George Story, and George Farquhar. Works printed in Dublin are also omitted, as they are appearing in "List of Books, Tracts, &c., printed in Dublin in the Seventeenth Century." To do full justice, indeed, to Sir J. T. Gilbert, all the titles and collations should be given completely; but this is not feasible at present.

On the occasions when these papers were read, there were exhibited by the author some photographs of title-pages or other pages out of some of the works particularly mentioned by him. These photographs unfortunately cannot now be traced, but others are here reproduced, some taken specially for this publication. The three sentences within square brackets in the first paper appear in the MS. in such a way as to make it doubtful whether they should be included or not; but they are inserted here as appropriate rather than otherwise. In his second paper, Sir J. T. Gilbert refers to an Appendix in which he gave particulars of the productions of some Irish typographers other than the King's printer. Unfortunately this Appendix is not now forthcoming; but in Appendix C to this paper an attempt has been made to afford some information on the point, and to supply imperfectly what Sir John T. Gilbert had done previously.

Facsimiles of a few title-pages appear at the end as illustrations of printing in Ireland during the period covered by Sir John T. Gilbert's papers.

FIRST PAPER.

Read 22 June, 1896.

It is to be regretted that no comprehensive work has yet been published on Irish Bibliography from the time of the invention of printing to the nineteenth century. An Irish Bibliography should, I submit, contain precise details in relation to the printed works of Irish authors as well as in reference to publications in connexion with Ireland, or printed in Ireland. The preparation of such a bibliography would be an undertaking of more than ordinary difficulty. Many important works by Irish authors, or in relation to Ireland, were written in Latin, French, or Italian, printed on the Continent, and are now rare, costly, and in some cases unobtainable. To read here a catalogue of books, with minute particulars in connexion with each

of them, would probably be deemed tedious, but perhaps some brief particulars on the subject may not be uninteresting.

There does not appear to have been any printing in Ireland till 1551,¹ when a volume hereafter noticed was produced in Dublin. Many years before 1551 works of Irish writers were published on the Continent. Among these was that entitled *Manipulus Florum*—"Handful of Flowers"—by Thomas de Hibernis, printed at Piacenza in 1483. This very elegant specimen of typography is a small folio volume, printed in double columns, with the initial and capital letters painted red and blue. Towards the close of the fifteenth century one of the most important printing offices in Venice—that of Ottaviano Schott—was under the supervision of an Irishman, Maurice O'Fihely, known on the Continent as "*Mauricius Hybernicus*," or "*de portu*," from the harbour of Baltimore, lands in the vicinity of which belonged to his sept. [Works of O'Fihely were printed at Ferrara in 1499, and at Venice in 1501.] O'Fihely acted as Professor at Padua with great reputation, and was subsequently appointed Archbishop of Tuam. [Two of his books, printed in 1501 at Venice, are now laid on the table.] Prefixed to one of his works was "*Mauritio Hibernico: divinarum humanarumque rerum interpreti eminentissimo*."

The first book printed in Ireland—already referred to—was the Book of Common Prayer, &c., after the use of the Church of England, published by Humphrey Powell in 1551.² The printing is in black letter, and the volume contains 140 pages, exclusive of calendars, rubrics, and introductory matter. Powell had previously carried on printing work in London at his "dwelling above Holborn Conduit."

Through the kindness of Dr. Abbott, Librarian of Trinity College, Dublin, I am enabled to lay before the Academy reproductions of the first and last pages of Powell's volume. I am indebted to Mr. Greenwood Pim for the photographs, which are in a size smaller than that of the pages of the original book.

The first book printed in the Irish language appeared at Dublin in 1571. It is a small volume of fifty-four pages, each page containing on an average twenty-three lines. The contents—entirely in the Irish language—are an introduction to the Irish language, Catechism of

¹ According to the Records of the Privy Council of England, Powell received from King Edward VI. in 1550 money to aid him upon his setting up a press in Dublin, and that year may now be taken as the first in which a printing press was started in Dublin.

² Besides the copy in T.C.D. Library, there is only one other (at present) known to exist, and that is in the Library of Emmanuel College, Cambridge.

the Church of England, forms of prayer, and other religious matters. The translations from English and Latin are stated on the title-page to have been made by John O'Kearney. The title-page also tells us that the book was printed at the cost of John Ussher, Alderman of Dublin, at the head of the Bridge, with the privilege of the great Queen Elizabeth. [Kearney, the translator, was treasurer of the Cathedral of St. Patrick, Dublin, and in his translations from the Irish he is said to have been assisted by Nicholas Walsh, Bishop of Ossory.]

Of this book no copy is to be found in Ireland.¹ Through the liberality of the Curator of the Bodleian Library, and the kindness of Mr. F. Madan, I am able to lay before the meeting facsimiles of the title and other pages of this very rare book.

Some time since, on examining the papers of Archbishop Parker in the Library of Corpus Christi College, Cambridge, a broadside came to light containing an Irish poem printed in the same year and in the same house with the book I have just described. The subject of the poem is the Day of Judgment, and the author's name is given at head as . . . MacCrossan. Neither the poem nor its author is mentioned in any [of] our books. To the authorities at Cambridge I am indebted for the photograph of the poem now laid before you.²

Having, I fear, detained the meeting too long, I shall only ask leave to add a few observations on books printed before 1600 which contain notices in relation to Ireland.

Of these one of the earliest is the Dittamondo of Fazio Uberti, printed at Florence and Vicenza towards the middle of the fifteenth century.

It is not generally known that Giovanni Batista Cinthio, the eminent Italian dramatist and novelist, composed a tragedy in five acts, the scene of which he laid in Limerick, described as "Limirico citta nobile d'Hibernia." Among the dramatis personæ were the King of Ireland, his general, chamberlain, and herald. The chorus was composed of men of Limerick. This tragedy, entitled "Arrenopia," was printed at Venice in 1583, with the portrait of the author on the back of the title-page.

¹ There are only three copies (at present) known to exist: one in the Bodleian Library, one in the British Museum, and one in the Library of Lincoln Cathedral.

² Photographs of this unique broadsheet are in the National Library of Ireland and in T.C.D. Library. It was also printed with a translation by Mr. John McNeill in No. 103, Vol. ix., of the *Gaelic Journal*, January, 1899.

The last publication I shall here mention is one consisting only of four leaves, and of which but one copy is known to exist. It was printed at Rome in 1596, and entitled "*Relatione della guerra d'Hibernia.*" The main subject is a victory obtained by the Earl of Tyrone over Sir John Norris, Gerent for England. Norris is described as a captain of great experience. The Earl of Tyrone, the writer mentions as now styled "*il gran principe Dioneel.*"

NOTE.—For the other known specimens of Dublin printing prior to 1601 see "*The Earliest Dublin Printing*" (1902, O'Donoghue & Co.). Sir John T. Gilbert does not refer to printing at Waterford in 1555. No doubt, the genuineness of such printing is seriously questioned, but not disproved. An article on the point will be found in the "*Journal of the Waterford and South-East of Ireland Archæological Society*," Vol. II., p. 209 (October, 1896), by Mr. James Buckley; and it is also dealt with in an article on "*Irish Provincial Printing prior to 1701*," in *The Library*, Vol. II. (N.S.), p. 341.—E. R. M'C. D.

SECOND PAPER.

Read 14 June, 1897.

At a former meeting I communicated to the Academy some details of Irish bibliography from the time of the introduction of printing to the year 1599.

I now propose to bring under your notice some particulars in relation to Irish bibliography in the seventeenth century.

This undertaking demands a greater amount of labour and investigation than might be supposed, as no work on Irish bibliography of that period has hitherto appeared in print, and most of the publications referred to are of great rarity.¹

In the seventeenth century the subject may be considered under the heads of publications issued in Ireland, in Great Britain, and on the Continent.

During the greater part of the seventeenth century there was little printing in Ireland, except that which was carried on at Dublin.

¹ There have now appeared Mr. John Anderson's *List of Belfast Printed Books and two Supplements*, beginning with 1696; and three parts of my *List of Dublin Printed Books, &c.*, of the seventeenth century. There have also appeared in the "*Journal of the Waterford and South-East of Ireland Archæological Society*," from time to time, particulars of books, &c., printed in Waterford, Kilkenny, &c., in the seventeenth and eighteenth centuries, compiled by Mr. James Coleman, who also compiled a *List of Limerick printing*, which appeared in the early numbers of the "*Journal*" of the Limerick Field Club. A *List of Cork Printed Books of these centuries*, commencing in Vol. VI. (Second Series), p. 170, of the "*Journal of the Cork Historical and Archæological Society*," has just been completed.

Under patent from the Crown a government official, designated "the King's Printer for Ireland," possessed a monopoly of printing, book-binding and bookselling in Ireland, with authority to exact heavy penalties from any persons who infringed his rights.

The first King's Printer for Ireland was John Frankton, who, in 1604, obtained from James I. an appointment of that office for life.¹

Frankton's most important publications were versions of the New Testament and Book of Common Prayer in the Irish language, and the Reports of Sir John Davis in law French.²

In succession to Frankton as King's Printer for Ireland, and on the recommendation of the Society of Stationers of London, a patent for the office of printer general for Ireland was in 1618 granted to Felix Kingston, Matthew Lownes, and Bartholomew Downes, styled in the patent "citizens and stationers of London." Acting on behalf of the London Society of Stationers, these patentees erected suitable buildings at Dublin, with printing presses; and Kingston, with others from London, commenced their labours with the publication in 1620 of a folio volume of the Statutes of Ireland, with the following imprint:—

"Dublin, Printed by the Companie of Stationers of the Citie of London, Printers to the King's most excellent Majestie. Anno 1620. Cum privilegio regiae majestatis."³

In the following year "The Countess of Pembroke's Arcadia," written by Sir Philip Sydney, was issued with the imprint: "Dublin: Printed by the Societie of Stationers, 1621."

With the same imprint there were subsequently published at Dublin works by Sir James Ware, James Ussher, Sir Richard Bolton, and Thomas Randolph.⁴ The post of King's Printer in Ireland was held in 1642 by William Bladen, who, in 1644, issued at Dublin an edition of the Psalter in English, now difficult to find. In 1643 the

¹ For a sketch of Frankton's life and work, see *The New Ireland Review*, Vol. IX., p. 36 (March, 1898).

² These Reports (1616) form the earliest Law Book printed in Ireland, as at present known. He also printed another Law Book in 1617.

³ The date on the title-page is 1621. They printed two Sermons in 1620, one by Hampton, then Archbishop of Armagh, and the other by the Rev. John Steere. It is probable that these works issued from their press prior to Bolton's "Statutes."

⁴ To these may be added works by Richard Beling, Edmund Spenser, Edmund Campion, M. Hanmer, Sir James Barry, Christopher Sym, and Gerald and Arnold Boate, besides works of numerous divines.

Irish Confederation established printing presses at Kilkenny and Waterford, then under their jurisdiction, and appointed Thomas Bourke as their chief printer. The type and machinery for these presses appear to have been brought from Flanders.¹ After Dublin came under the rule of the Parliament of England Bladen was still employed to execute the Governmental printing in Ireland. He was prohibited from printing any matter without the sanction of the Council of State.²

On the restoration of Charles II. the office of King's Printer in Ireland was granted to John Croke, a London bookseller, whose shop was at the sign of the Ship in St. Paul's Churchyard. After Croke's death the appointment was obtained by Benjamin Tooke of London in 1669, with whom John Croke was associated in 1671.³ James II. granted the office of King's Printer in Ireland to James Malone, a Roman Catholic Alderman of Dublin. William III., on his expedition to Ireland, brought with him a printer named Edward Jones, and a press at which his proclamations were printed. After the termination of the war in Ireland the post of King's Printer was granted to Andrew Croke, son of John Croke, already mentioned, in trust for his father's children, and he held the office at the end of the seventeenth century.⁴ During the closing years of that century there were, besides the King's printers, a few typographers in Dublin, and of their productions particulars are given in the Appendix⁵ to this paper. They appear to have been chiefly occupied with reprinting English publications. Of these printers may here be mentioned Joseph Ray, who printed the first Dublin newspaper,⁶ and published the original edition of Moly-

¹ For titles of works from his presses see the Journal of the "Waterford and South-East of Ireland Archæological Society" for 1898, 1899, *et seq.*

² Bladen died in 1663, and was buried in St. Werburgh's Churchyard. The last imprint bearing his initials appeared in 1662.

³ The first dated imprint with John Croke's name appeared in 1661, the last with his name *alone* in 1668. In 1669 Benjamin Tooke's name appeared alone and as King's Printer, and so continued till 1679, with one exception, when it appears coupled with John Croke, whom I conjecture to have been a son or relative of the first John Croke, unless indeed Tooke merely added the name of the deceased printer for some private reason and for the benefit of his family.

⁴ Andrew Croke first appeared as a printer in 1684, and continued till 1721.

⁵ This is the missing Appendix referred to in the Introduction.

⁶ Subsequently to the reading of this paper there were found in the Library of Worcester College, Oxford, some numbers of a weekly Journal printed in Dublin in 1663. See Proceedings R.I.A., 3rd Series, Vol. VI., No. 1, for further particulars and reproduction of three or four pages.

neux's Case of Ireland. During the seventeenth century several books in connexion with Ireland were published in London. Numerous tracts and pamphlets emanating from thence were circulated for the purpose of promoting political and other objects. Other English publications of the time were avowedly intended to expose what they designated the natural stupidity and simplicity of the Irish.

We may now turn to our next section—the bibliography of publications of Irish authors, and in connexion with Ireland, printed on the Continent in the seventeenth century. Most of these were in Latin, but some were in Irish, English, French, Italian, or German. The places at which these works chiefly appeared were as follows:—Antwerp, Bologna, Bolsano in the Tirol, Boulogne, Brussels, Cologne, Douai, Dunkerque, Frankfort, Innspruck, Lille, Lisbon, Louvain, Lucca, Lyons, Madrid, Mentz, Milan, Mons, Naples, Paris, Passau, Prague, Rome, Rouen, Spira, St. Malo, St. Omer, Sultzbach, Trient, Vienna, Wurtzburg. The books published at these places varied in size from the folio to the octodecimo. In point of extent the greatest of them was the collection of the works of Duns Scotus in fifteen folio volumes, edited entirely by expatriated Irishmen, and published at Lyons in 1639.

Somewhat later in date were the folio volumes in which other exiled Irish scholars—Colgan and Fleming—transmitted to posterity surviving remnants of the ancient Gaelic Literature of Ireland. It may be added that few European publications of their age are now sought for with greater avidity or rank higher in money value than some books published abroad by Irish editors of the seventeenth century. The Irish authors who wrote in Latin usually added to their names on the title-pages the word “Hibernus.” In some cases they mentioned the part of Ireland to which they belonged, as in the case of Dr. John O'Dwyer of Cashel, who styled himself “Casseliensis,” on the title-page of his treatise “*Querela Medica*,” published at Mons in 1686.

The books in the Irish language printed within this period were published at Brussels, Louvain, and Rome. Of books in English by Irish writers published on the Continent in the seventeenth century, two by Captain Gerald Barry deserve special notice, and are of extreme rarity. The first—a folio volume, with plates, published at Louvain in 1626—contained a narrative of the famous siege of Breda, at which the author, with a regiment of Irish soldiers in the service of Spain, took an active part. Barry's second work, also in folio, with plates, issued at Brussels in 1634, was a discourse on military discipline, with

treatise on fortifications and fireworks. The author indicated his nationality by styling himself "Garet Barry, Irish."

In the French language many publications were devoted to the Life and Purgatory of St. Patrick. A French version of the History of the Geraldines of Ireland, published in 1697 at Dunkirk, is, from its extreme rarity, now regarded as one of [the] chief treasures of the bibliophiles of that town. In a similar category is the French narrative of affairs in Ireland, issued in 1696, without indication of the place of publication, or the name of the printer.

Of the works in Italian connected with Ireland are the account of the battle of Benburb, 1646; John de Burgo's narrative of his five years' travels; the voyages of Battista Pacichelli, 1685, unnoticed by bibliographers; and the description of the rejoicings at Rome by the Irish there on the birth of the Prince of Wales. There are also large works in Italian on Saints Patrick, Brigid, Malachy, and Silanus, printed at Bologna, Venice, Naples, and Lucca.

In German we have a version of the travels of Thomas Carve of Tipperary, who served as a military chaplain to the assassin of Wallenstein.

APPENDIX A.—SIXTEENTH CENTURY.

NOTE.—The name following the place of publication when in italics is that of the printer, but otherwise of the publisher.

1506. *Questiones Qualibetales Joannis Duns Scoti, &c.* Amended by Maurice de Portu, "Hibernicus." Venice: *Simon de Luere*. Folio. Trinity College, Dublin.
1513. *Secundus Liber, &c., Joannis Duns Scoti, &c., super sententias, &c.* Paris: *Jehan Crainon*. Folio. Trinity College, Dublin (GG. g. 19).
1528. *Sedula Scoti Hyberniensis. In omnes Epistolas Pauli Collectaneum.* Basilea [Basle]: *Henry Petrus*. Folio. Trinity College, Dublin.
1558. *Flores omnium Pene Doctorum, &c., per Thomam, Hibernicum.* Lugdunum [Lyons]: for William Rouillius. 16mo. Trinity College, Dublin (CC. p. 32).
1569. *Divi Archi-Praesulis, Christique Martyris, &c., Rumoldi, &c., Vita, abs Joanne Domijns Machliniano, &c.* Brussells: *apud Michael Hamontanum*. 16mo. Trinity College, Dublin.

1570. De Probatis Sanctorum Historiis, &c., collectis per F. Laurentium Surium, &c., Tomus Primus, &c. Mensium Januarii et Februarii. Colonia Agrippina [Cologne]: *apud* Geriunum Calenium & haerides Quintelios. Folio. Trinity College, Dublin.
1579. Vitae S. Marini, &c., & Aniani, &c., per Johan a Via, &c. Monachium [Munich]: *Adam Berg*. 4to. Royal Irish Academy. With a German version of same date.
1584. De Rebus in Hibernia Gestis. Libri Quatuor. Richard Stanihurst. Antwerp: *Christopher Plantinus*. Sm. 4to. Royal Irish Academy.
1590. Officium S. Frigidiani, &c. Florence: *apud* Bartholemaeum Sermartellium. 8vo. Royal Irish Academy.
1590. Gulielmi Tempelli Philosophi Cantabrigiensis Epistola de Dialectica P. Rami ad Joan Piscatorem Argentinsem, &c. Frankfort: *apud haeredes* Andreae Wecheli. 8vo. Trinity College, Dublin.
1598. Scriptum Oxoniense. In Quatuor Libros Sententiarum, &c. Joannis Duns Scoti, &c. Valentia: *Alvarus Francks*. Folio. Trinity College, Dublin.
1598. S. Kiliani, &c., Gesta. Nicolaus Serarius, &c. Wirceburg: [Wurtzburg]: *George Fleischman*. Sm. 4to. Trinity College, Dublin.

APPENDIX B.—SEVENTEENTH CENTURY.

1608. A Catholicke Confutation of M. John Rider's Clayme of Antiquitie, &c. Henry Fitzsimon, s.j. Roan [Rouen]. Sm. 4to. Trinity College, Dublin (DD. o. 8).
1611. Analysis Logica *Triginta* Psalmorum, &c. Wm. Temple, Provost T.C.D. London: *Richard Field*. 8vo. Trinity College, Dublin.
1614. Hebdomada Eucharistica, &c. Richard Stanihurst. Douay: *Baltazar Beller*. 8vo. Trinity College, Dublin.
1615. Ormonius: Sive, Illustrissimi Herois ac Domini, D. Thomae Butleri, Ormoniae & Osoriae Comititis, &c. Dermot O'Meara. London: *Thomas Snodham*. 16mo. Trinity College, Dublin.

1616. Emanuel (Irish Characters). Florence Conry (or Conroy), o.s.f., Archbishop of Tuam. Louvain. 8vo. Trinity College, Dublin.
1617. *Analecta Sacra, nova, et mira, de rebus Catholicorum in Hibernia, &c.* "T. N." (D. Roth or Rothe). [Cologne?]: *Stephen Rolin*. 8vo. Trinity College, Dublin; Royal Irish Academy; British Museum.
1617. *Discursus Panegyrici de nominibus, &c., S. Patricii, &c. Guillelmus Thyraeus, s.t.d., Ibernus, Corcagiensis.* Douay: *Baltasar Beller*. Trinity College, Dublin. 16mo. Royal Irish Academy. 18mo. British Museum.
1618. *Scathan phacpamuince na h-aisiribhe, &c.,* Hugh M'Caghwel. Louvain. 18mo. Trinity College, Dublin (V. oo. 63).
1620. *Brigida Thaumaturga, &c.,* David Rothe. Paris: *Sebastian Cramoisy*. 8vo. Trinity College, Dublin.
1622. *Flores omnium pené Doctorum, &c.* Thomas de Hibernia, or Hibernicus, or Palmeranus (of Palmerstown), o.p. Geneva: *James Stoer*. 16mo. Trinity College, Dublin.
1623. *Historiae Catholicae Iberniae Compendium.* Philip O'Sullivan, Beare. Ulyssipone [Lisbon]: *Peter Crasbeeck*. 4to. Royal Irish Academy; British Museum.
1623. *Janua Linguarum, &c. (The Gate of Tongues).* William Bathe, s.j. 5th Edition. London: H. L. for Mathew Lowns, 4to. Trinity College, Dublin (DD. hh. 9).
1623. *Annales Minorum, &c. Tomus Primus.* Luke Wadding, o.m. Lugduni [Lyons]. Folio. Trinity College, Dublin.
1627. *Nitela Franciscanae Religionis, &c. Dermicius Thadaei.* Lugduni [Lyons]. 4to. Trinity College, Dublin; British Museum.
1629. *Idea Togatae constantiae, &c. (with second title).* Joannes Molanus, Corcagiensis. Paris: the widow of Peter Chevalier. 12mo. Trinity College, Dublin; British Museum.
1632. *De Regno Hiberniae Sanctorum Insula Commentarius, &c.* Peter Lombard, Archbishop of Armagh. Louvain: the widow of Stephen Martin. 4to. Trinity College, Dublin; Royal Irish Academy.
1633. *Heliotropium, &c.* Barnabas Kearnaeus, Cassellensis, Hibernus (Barnabas Kearney, s.j.). Paris: *Sebastian Cramoisy*. 8vo. Trinity College, Dublin; Royal Irish Academy.

1635. In Logicam Introductio, et Disputationes in Universam Aristotelis Stagiritae Logicam. Jacobus Piers, Hibernus, s.t.d. **Burdigalae** [Bordeaux]: *Peter de la Court*. 8vo. Trinity College, Dublin.
1636. Naenia in Obitu Jo. Flemingi, Baronis Slaniensis filii, &c. Christopher Chamberlinus. **Brussells**: *ex Typographejo Momartiano*. 4to. Royal Irish Academy; British Museum.
1639. Catechismus, seu Doctrina Christiana Latino-Hibernica, &c. Theobald Stapleton, Sacerdos Hibernus. **Brussells**: *Hubert Antony Velpy*. 4to. Trinity College, Dublin (V. k. 42).
1641. Peregrinus Jerichuntinus, &c. Florence Conroy. **Paris**: *Claud Calleville*. Trinity College, Dublin (4to); Royal Irish Academy (sm. fol.).
1644. Alexipharmacon, &c. Walter Enos, D.D. **Waterford**: *Thomas Bourke*. 4to. Trinity College, Dublin.
1644. Vita Joannis Duns Scoti, &c. Luke Wadding. **Mons**: *Typis F. Waudraei Filii*. 8vo. Trinity College, Dublin; British Museum.
1645. Acta Sanctorum Veteris, &c. John Colgan. Tomus Primus, &c. **Louvain**: *Everard De Witte*. Folio. Royal Irish Academy.
1646. Itinerarium, &c. Thomas Carve (or Carew). Part iii. **Spira** [Spire]: *Balthazar Buschweiler*. 12mo. Trinity College, Dublin.
1650. Vindiciarum Catholicorum Hiberniae. (Richard Beling, or Belling.) **Paris**: *Widow I. Camusat & Peter le Petit*. 8vo. Royal Irish Academy.
1655. Initium, Incrementa et Exitus Familiae Geraldinorum, Desmoniae, &c. Dominick [de Rosario] O'Daly. **Ulisipone** [Lisbon]: *The Crasbeeckian Press*. 8vo. Trinity College, Dublin.
1657. Metra Miscellanae: Epigrammatum Libri Tres, &c. Bonaventure Baron. Editio Altera. **Cologne**: *John Bussens*. 12mo. Trinity College, Dublin.
1658. The Politicians Catechisme, &c. "N. N." (N. French). **Antwerp**. 8vo. Trinity College, Dublin.
1659. Apostolatus Missionariorum per Universum Mundum, &c. Raymund Caron, o.m. **Paris**. 8vo. Trinity College, Dublin; British Museum.

1660. *Scotus Hiberniae Restitutus*. Joannis Poncius, Hibernus, o.m. Paris. 8vo. Trinity College, Dublin (2 copies); British Museum.
1662. *Sancti Rumoldi Archiepiscopi Dublinensis, * * Acta, &c.* Hugh Ward, "Hibernus." (Edited by "Thoma Sirino"). Louvain: Peter Sussen. 4to. Royal Irish Academy; Trinity College, Dublin.
1662. *Flores Sacrorum Bibliorum, &c.* Thomas de Hibernia, or Hibernicus. Ultima Editione. Paris. 12mo. Trinity College, Dublin (C. n. 27).
1662. *Epitome Annalium Ordinis Minorum, &c.* Francis Harold, "Hibernus, Limericensis." Rome: *Nicholas Angelus Tinassius*. Folio. Trinity College, Dublin.
1662. *The Irish Colours Folded, &c.* (Peter Walsh, Ord. Min.). London. 4to. Trinity College, Dublin.
1664. *Corolla Oecodomiæ Minoriticae, &c.* Antony Bruodine, Hibernus, Ord. Min. Prague: *Typis Universitatis Caroli-Fordi, &c.* 8vo. Trinity College, Dublin (E. m. 17).
1666. *Lyra sive Anacephalaeosis Hibernica, &c.* Thomas Carve (or Carew). Sulzbach: *Abraham Lichtenthaler*. 4to. 2nd edition. Royal Irish Academy.
1669. *Pii Antistitis Icon, &c.* (Life of Fras. Kirwan), John Lynch, D.D. Maclovii [St. Malo]: *Anthony de la Mare*. 8vo. Trinity College, Dublin.
1671. *Praecipuae Controversiae, Fidei, &c.* Richard Archdekin. Louvain: *Typis Haered, Bernardini Masii*. 8vo. Royal Irish Academy; British Museum.
1674. *Securis Evangelica ad Haeresis Radices Posita*. Francis Porter, "Hibernus Medensis," Ord. Min. Rome: *Successor of Mascardi*. 8vo. Trinity College, Dublin.
1674. *Primatus Dubliensis, &c.* (Peter Talbot, Archbishop). *Insulis* [Iisle]: *Nicholas de Rache*. 8vo. Trinity College, Dublin.
1675. *Blakloanae Haeresis, &c.* (Peter Talbot, Archbishop). *Gandiva* [Ghent]. 4to. Trinity College, Dublin.
1676. *Lucerna Fidelium, &c.* Francis O'Molloy (or Molloy), "Medensis" Ord. Min. Rome: *typis Sacrae Congreg. de Propaganda Fide*. 8vo. Royal Irish Academy; British Museum; Trinity College, Dublin.

1682. *De Jure Maritimo et Navali*, &c. In three books, &c. The third edition much enlarged; by Charles Molloy. London. 8vo. Trinity College, Dublin; British Museum.
1684. *The Earl of Castlehaven's Review, or His Memoirs*, &c., with an appendix and postscript. London. 8vo. Trinity College, Dublin.
1685. *Ogygia; seu, Rerum Hibernicarum Chronologia*, &c. Liber Primus, &c. Roderick O'Flaherty. London: *R. Everingham*. 4to. Royal Irish Academy; Trinity College, Dublin.
1693. *Systema Decretorum Dogmaticorum*, &c. Francis Porter, "Medensis," &c. Avenione [Avignon]: *Francis-Sebastian Offray*. Folio. Trinity College, Dublin.
1694. *An Account of Denmark. As it was in the year 1692*, &c. Viscount Molesworth. London. 8vo. Trinity College, Dublin.
1694. *De Vrye Staats-Regering, Geschetat in een Beschrijvinge Van Denemarken. Loo ale 't was in den Jare 1692*. Viscount Molesworth. Rotterdam: *Pieter Vander Slaart*. 8vo. Trinity College, Dublin.
1696. *Theologia Tripartita Universa*, Richard Archdekin. Venice: *apud Io: Jacobum Hartz*. Sm. 4to. Royal Irish Academy.
1698. *The History of Poland*, &c. Bern. Connor, M.D. Published by the care and assistance of Mr. Savage. 2 vols. London: J. D. 8vo. Trinity College, Dublin.

APPENDIX C.

Some Printers other than the King's Printers, and some items of their printing.

NATHANIEL THOMPSON.

1615. *Almanack*, &c. Ambrose White. 8vo.
1666. *Praxis Francisci Clarke jam jus dicentibus quam aliis omnibus, qui in Foro Ecclesiastico versantur apprime utilis*. 4to.
1666. *A Discourse on Prov. xii. 5*. Dr. F. Teat. 12mo.

JOSIAH WINDSOR.

1667. *Oratio in Inauguratione D. Petri Butler, s.t.b., &c.* 4to.
 1669. *A Welcome in a Poem to His Excellency John Lord Roberts, &c. Lt.-Col. Mercer.* 4to.
 1669. *The Pattern of Grace and Glory, &c. The Bishop of Clonfert.* 4to.

JOSEPH RAY.

1681. *Conversion of P. Corwine.* 4to.
 1681. *Some Passages in the Life and Death of John Earl of Rochester. Bishop Burnet.* 4to.
 1681. *Count Hanlon's Downfall.* 4to.
 1682. *The Interest of Ireland in its Trade, &c. Rd. Lawrence.* 12mo.
 1682. *Foxes & Firebrands.* 12mo.
 1683. *Essay upon Poetry.* 4to.
 1685. *The Dublin Newsletter.*

Ray continued to print every year down to the eighteenth century. He printed the following very notable book:—

1698. *The Case of Ireland's being bound by Acts of Parliament in England Stated. Wm. Molyneux.* 8vo.

SAMUEL HELSHAM.

1681. *Institutiones Logicæ.* 16mo.
 1684. *The Counterscuffle.* 8vo.
 1686. He began this year printing with Andrew Crooke, and they became the King's Printers in succession to Benjamin Tooke.

EDWARD JONES.

1690. *A Form of Prayer To be used on 15th Augt., &c.* 4to.

ROBERT THORNTON.

1692. *Civil & Military Articles of Limerick.* 4to.
 1692. *The Diary of the Siege of Limerick.* 4to.

SAMUEL LEE.

- 1694 The Last Speech of Mr. Jas. Geoghegan, &c. Fol.
1695. A Clear, &c., Explication of the History of our Blessed Saviour.
Dionysius Syrus. Translated by Dudley Loftus. 4to.

RICHARD WILDE.

1695. A Sermon by The Dean of St. Paul's, 4to. And other books.

JOHN BROCAS & CORNELIUS CARTER.

1696. Tractatus de Visitationibus Episcopilibus. The Bishop of
Meath. 16mo.
1699 & 1700. Brocas printed several works alone in these years.
1700. J. Carter printed alone this year.

MATHEW GUN.

1696. Reflections on a Book published by Mr. Ammonet, &c. 4to.

JOHN BRENT.

1699. A Short Relation of the brave exploits of the Vaudois, &c.
S. d'Assigny. 4to.

STEPHEN POWELL.

1699. The History of Caledonia, &c. 12mo.

NOTES ON THE ILLUSTRATIONS.

Plate III. and the following facsimiles will help to illustrate the foregoing papers. They afford a representation of the press-work of different printers as far at least as title-pages are concerned, and may be useful for comparison.

Plate III. is a facsimile of the title-page of the Book of Common Prayer, the first book known to be printed in Ireland. The woodcut borders deserve attention. Those at top and bottom each consist of four Scriptural scenes. The ornamental side borders occur again

round the Gaelic Poem printed in 1571. About eight lines of the title-page are in red ink, the rest in black. The book is a folio.

Fig. 1 is a facsimile of the last page of the Book of Common Prayer, added in consequence of the arrival of a new Lord Deputy (Sir James Croft) in succession to Sir Anthony Sentleger. The tail-piece, it will be noticed, consists of two of the Scriptural scenes on the title-page, with a new one.

Fig. 2 represents the title-page of the Gaelic Version of the Book of Common Prayer, printed by John Frankton. The type was that already used by O'Kearney to print the poem and Catechism in 1571. The head-piece will be found in other specimens of Frankton's printing.

Figs. 3 and 4 are facsimiles of title-pages from the press of the Society, or Company, of Stationers (from London), who bought out Frankton, and acquired his State Patent. The woodcut design (fig. 3) merits notice. Similar designs are found on title-pages of other works issued here from this press. The work is a folio. Fig. 4 is the full size of the work, of which only two copies are recorded.

Fig. 5 shows the plain but effective style adopted at a later period. Portions of the title are in red ink. This facsimile is also full size.

Fig. 6 is a full-size facsimile of the title-page of a very rare book. Only one copy is known to exist. Tooke succeeded Crook as State Printer here. This title-page illustrated the very long title, necessitating the overcrowding of the page, so common even to a much later period.

Fig. 7 is given to exhibit a specimen of the printing of Edward Jones, the printer who accompanied William III. to this country. Specimens from his press printed here are very rare. He seems to have had no regular or permanent printing office, but to have returned very soon to England, as Andrew Crook became King's Printer here in 1690 or 1691. The work is a 4to.

Fig. 8 is an illustration of Andrew Crook's printing and title-page making, about 1692.

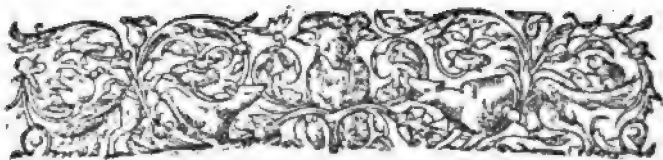
**A prayer for the Lord deputie, (to be said)
betwene the two last Collectes of the Matene.**

Most mercifull and everlastyng God, whiche amongest other thy sundrie and manifold giftes, (by geuyng of good and rightuous ministers in earth) dooest declare thy fauourable mercie and excedyng goodnesse: We most humble beseeche thee, that thou wilt so lighten the herte of thy seruaunt (Sir James Croft) now gouernour ouer this realme, vnder our most dread and soueraigne Lord, Edwarde the first: that he maie by the might of thy power, gouerne and guide the same in thy most holy lawes: grauntyng hym grace (by purenesse of life and feruent zeale to thy trueth) to be an example to all other, to leaue of their olde abhominable errours: And that he maie (haupng stedfast confidence in thy helpe) not onely brynge the people to liue in thy feare, and due obedience to their kyng: but also by ministring of Justice, may kepe them from their accustomed, most frowarde and diuelishe sedicions, in rest, peace and quietnesse. And graunt Lord we beseeche thee, for thy sonne Iesus Christs sake, that through thee he be defended from the prauie craftes of those, whiche shall go about inaliciously to let or hyndre his good and godly procedynges: and that his dooynges alwaies and in all thynges, maie tende to thy glorie, the kynges honour, and the common wealtch of this lande. That thou wilt helpe hym, mainteyne hym, strengthen him, in thy waies direct hym, and appoynt iust and faithfull dealyng officers and seruauntes about hym, we most humble praie thee good lord:
who with thy sonne and the holy
ghost, liuest and reignest,
worlde without
ende. A-
men.

..



FIG. 1.



TIOMNA NVADH
AR DTIGHEARNA AGVS
AR SLANA FGHTHEORA JOSÁ
CRIOSD,

AR NA CARRUING SU FJRINNEACH
 ar bfeisir su saoiheirig,

RE HUJLLAM O DOMHNUL

·Tic. Cap. 2·

Ueyp. 11. Do foilligh gnás De su ceallwásteach, do beir plánughabh
 nír do chum na nuile dáoiueach:

Ueyp. 12. Agus do beir teagurú óúine, fá neam' ójéghachó, agus fá
 airmianuis an tráoghailre óo fíeachna, agus fá ar mbeatha oíó
 chaiteam óhúh su meapapra, agus su cumérom, agus su oiaza,
 ra ráoghailra óo lachajr.



ATA SO AR NA CHUR A SCLO A MBAILLE
 athá Clach, a oirigh mhaighirín Uilliam Uiréir Choys an Orysch-
 éio, né Seón Francke. 1602

Fig. 2.

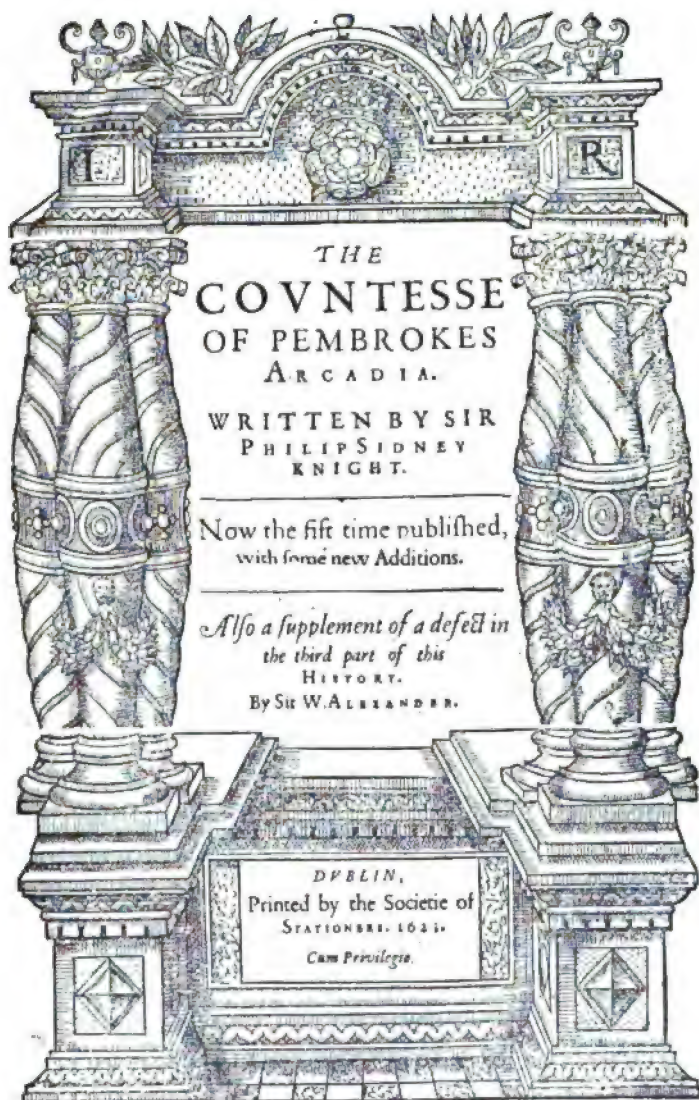


FIG. 3.

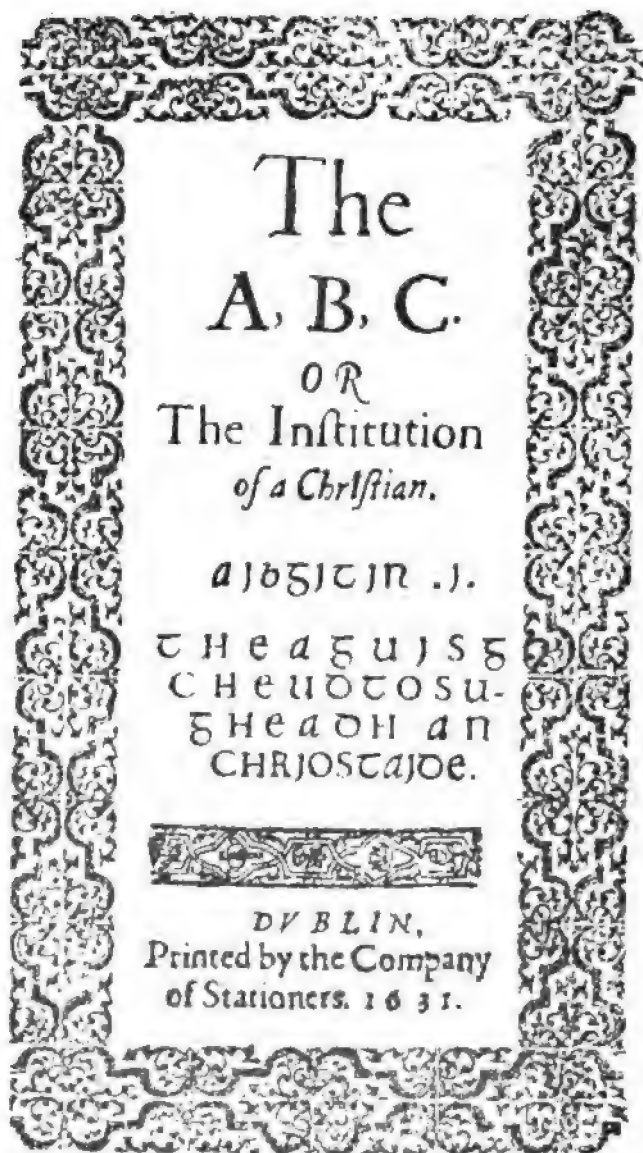


FIG. 4.

R E R U M
H I B E R N I C A R U M
H E N R I C O
Oſtavo Regnante,
ANNALES.
Nunc primùm editi.

Jacobo Waræo Equite Aurato
Authore.



DUBLINII,
Typis & impensis *Johannis Crook,*
Typographi Regii.
MDC LX II

THE

Herds-man's MATE:

Or, a GUIDE for

Herds-men.

TEACHING
How to Cure all *Diseases* in Bulls, Oxen,
Cows, and Calves

Gathered from sundry good Authours, and well
approved by the Authour, in his Thirty Years
practice.

Also many Cures found out by himself, and ne-
ver yet written; gathered into this portable
Volume, and sent abroad for the good of the
Common-wealth, and Kingdom of *England*,
Scotland, *Ireland*, and Dominion of *Wales*,
and all places else where need is.

Being very profitable for all those, that either
have, or take the charge of keeping this labo-
rious, good, and fruitful kind of Cattle.

Gathered and Professed by
MICHAEL HARWARD *Philom.*

DUBLIN, Printed by Benjamin Tooke, Printer to the
King's most Excellent Majesty, And are to be sold by
Joseph Hulse Lock-hall in *Catharine-street* &c.

FIG. 6.

A
F O R M
O F
P R A Y E R

To be Used

On *Friday* the 15th of *August*, and on every *Friday* during His MAJESTIES Expedition in the Kingdom of *IRELAND*: Being the FAST-DAYS Appointed by the KING and QUEEN for Supplicating Almighty GOD for the Pardon of our Sins; And for Imploring His Blessing on Their Forces by Sea and Land.

By Their Majesties Special Command.

D U B L I N,

Printed by *Edward Jones* at the *King's Hospital* in *Oxman-Town*; for the King and Queen's most Excellent Majesties, MDCXC.

**Modus tenendi Parliamenta
& Consilia in Hibernia.**

**Published out of an Antient
Record by the Right Re-
verend Father in God
ANTHONY, Lord Bi-
shop of MEATH.**

**To which is added the Rules
and Customs of the House,
Gathered out of the Journal
Books from the time of *Ed-
ward the Sixth.***

By H. S. E. C. P.

**DUBLIN, Printed by *Andrew Crook* Af-
signee of *Ben. Tooke*, Printer to Their Ma-
jesties, and are to be Sold at his House on
Ormond-Street, and by the Booksellers of
*Dublin.***

VI.

THE ANTRIM RAISED BEACH : A CONTRIBUTION TO THE NEOLITHIC HISTORY OF THE NORTH OF IRELAND.

By GEORGE COFFEY AND R. LLOYD PRAEGER.

[PLATES IV.-IX.]

Read JUNE 13. Ordered for Publication JUNE 15. Published DECEMBER 15, 1904.

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INTRODUCTORY NOTE.

IN connexion with the recent lawsuit, *Attorney-General v. the Trustees of the British Museum* (better known as the "Gold Ornaments Case"), which was heard before Mr. Justice Farwell at the Royal Courts of Justice in June, 1903, an interesting question arose, in which geological and archaeological considerations were combined. The golden boat, collar, and associated objects were found in ploughing on the extensive flat that stretches around Limavady junction in County Londonderry. They were buried eighteen inches deep in stiff clay soil, at a spot which is four feet above ordinary high-water mark. The British Museum authorities rested their claim to the retention of the objects in part on the theory that the ornaments in question constituted a votive offering, which was deposited in Lough Foyle about the beginning of the Christian era, the spot where the objects were sunk having since become dry land, owing to upheaval of the coast-line. "It is," said Mr. Warmington, K.C., in opening the case for the British Museum, "a case of votive offering which was made to a deity, and which would account for its being found where it was. . . . I think we shall be able to establish to your Lordship's satisfaction that there is no doubt that, at the place where the articles were found, the sub-soil is a raised beach, and it was shortly before the Christian era submerged, and part of the soil under the water of Lough Foyle."¹ "Down to the fourth century," said Prof. Hull, in his evidence, "I should say the elevation of these lands had not taken place; but from the fourth century onwards it commences—I mean the fourth century of the Christian era. . . . If you are very anxious for a date, I would say it [the upheaval] took between one hundred and two hundred years. . . . I think, probably, the limit would be three hundred years."² In connexion with this contention, as put forward in the pleadings, we were asked by the Solicitor to the Treasury whether we could determine or express an opinion as to the date or period at which the site of the find became dry land. For the purposes of this inquiry, we visited selected parts of the coasts of Derry and Antrim (we had previously examined the neighbourhood of the find); and the evidence which we acquired is of some interest

¹ Verbatim Report of the trial, by Messrs. Walsh & Sons. pp. 46, 47.

² *Ibid.*, Qq. 350, 418, 423.

as correlating recent geological changes with the history of the human habitation of the district. This evidence was not required in order to establish the claim of the Government to the gold ornaments in question; nor, indeed, did a court of law present a favourable opportunity for a discussion of such questions, which pertains rather to the work of this Academy. In the present paper we deal, so far as is at present possible, with the post-Glacial movements of submergence and emergence, and the contemporaneous human history of north-eastern Ireland.

GEOLOGY.

DESCRIPTIVE GEOLOGY OF THE DISTRICT.

It has been long recognized by geologists that around the coast of the north-east of Ireland a well-marked shelf or terrace exists, the formation of which, though geologically very recent, is, measured by the standard of human history, of considerable antiquity. This terrace or raised beach is the most conspicuous of a number of geological features which prove that since the close of the Glacial Period, fluctuations in the relative level of sea and land have taken place. The geological evidence which can be brought together to throw light on the extent, duration, and date of these changes, ranges itself chiefly under two heads—(1) phenomena of erosion, (2) phenomena of deposition. In other words, the sea has been continually eating into the land, and depositing the excavated material elsewhere.

Were the relative level of sea and land permanent, erosion would proceed slowly and steadily. But as this relative level is subject to gradual changes, relative depression of the land is constantly exposing fresh surfaces to the action of the waves, while relative elevation of the land is laying bare the flat surfaces which former waves have levelled, and the beds of gravel, sand, or mud which they have laid down. Evidence of emergence of the land, then, may be looked for in—

- (1). Escarpments now above tide-level (cliffs, banks, caves, &c.).
- (2). Plains of marine denudation.
- (3). Marine deposits now above tide-level.

Evidence of submergence is chiefly to be sought in the occurrence of terrestrial deposits now below sea-level; shallow-water deposits now in deep water or at deep level; and in the extension of valleys beneath the sea.

Erosion Phenomena.

The erosion phenomena of the district are well marked. The most striking feature is the steep scarp at some distance from the present beach, and at some height above it, which marks the former encroachment of the waves. This scarp is subtended by a level or slightly sloping plain representing the former beach or sea-bed; it may be formed either of the older material in which it was cut, or of newer material laid down on the denuded surface by the sea. In the district under consideration, the scarp is frequently cut in the Boulder-clay, which the Glacial Period spread over the low lands; but often it is formed of much more ancient rocks. This old coast-line, and its accompanying plain of denudation, may be seen admirably displayed at many places in the north-east. In County Down, in the Ards peninsula, it is well developed, as at Cloghey Bay. Here a sandy, grass-grown plain, yielding marine shells, and up to half a mile in breadth, stretches from the present shore-line inland to a series of bold bluffs, over fifty feet in height, cut in the Glacial drift. On one of these, on the extreme edge of the scarp, an earthen tumulus is built, and looks down on Kirkistone Castle, an early seventeenth-century structure, which stands on the old beach below.

At numerous points round the Antrim coast, the raised beach is well marked. The coast road is built on the old terrace in many places, with the sea on one hand, and the scarp on the other, cut sometimes in the drift, sometimes in the basalt or the chalk. At Drains Bay, Carnlough Bay, and elsewhere, the shelf widens, and is formed of beach-gravels, with a scarp of Boulder-clay rising steeply behind it.

Nowhere are the features under consideration seen to greater advantage than in the neighbourhood where "the gold ornaments" were found. Here the terrace is very extensive, covering many square miles, and is formed of clays and sands—the old bed of the sea. Edging this is a splendid scarp of Boulder-clay, distant in places from two to three miles from the natural high-water mark of the present day,¹ and 30 to 40 feet in height. To the northward of this plain, beside the road which skirts the low ground, high bluffs of basalt may be seen, the material composing which has slipped down from the hills over the Lias clays, and been finally eroded by the sea during the period with which we are dealing.

¹ Land has been reclaimed here, shutting out the sea from portion of its natural foreshore.

Another well-marked erosion feature, proving emergence of the land, is the occurrence of sea-caves at a level higher than that at which their formation by wave-action would be possible. Such caves may be studied with advantage at the basaltic cliffs of the Gobbins, in County Antrim, where the tide now enters them only at or near high water. Again, west of Ballintoy harbour, some of the caves cut in the chalk have been sufficiently elevated to be used as boat-houses and stores. At Red Bay, in the same county, a row of caves may be seen on the inner side of the Antrim Coast road, cut in the New Red Sandstone, some of which were till recently used as dwellings.

Deposition Phenomena.

The phenomena of deposition are more extensive and varied, and lend themselves more readily to detailed study. As the land sank, allowing the sea to make inroads into the drift and other soft deposits of the land margin, the eroded material, and that brought down by streams, was deposited along the coast. On the more open shores, or where currents prevailed, these beds consisted mainly of gravel and sand; in the deeper or quieter waters, mud was laid down. On and in these deposits, in many places, a varied fauna flourished, the nature of which, as gleaned from the shells and other harder parts of the animals which still remain, often furnishes valuable evidence as to depth of water and other conditions under which this fauna lived. These old sea-beds, shoals, and beaches, by subsequent elevation, have been raised above high-water mark, or, though still submerged, are now seen at levels higher than those at which they were deposited.

The Raised Beach Deposits.

These raised beaches and sea-beds are finely developed in the north-east of Ireland, the latter even better than the former. The famous raised beach of Larne is a gravel-bank, a long tapering ridge, heaped up by tides, extending from the narrow entrance of Larne Lough for some three-quarters of a mile into the waters of the bay (Plate IV.). The material of which it is composed is stratified gravel, with sandy beds (Plates VI., VII.); the latter often exhibit colonies of burrowing bivalve shells, still in the position in which they lived. All the layers yield abundant specimens of the commoner univalve shells which crawl about between tides or in shallow water. With these shells, as will be referred to later, flints worked by man are found.

Notices of this raised beach, the classic one of the north of Ireland, are numerous; and a detailed account has been published:¹ so for the present the above brief notice will serve. Afterwards we shall return to the subject, and add some further observations which we recently made at Larne.

The Kinnegar, at Holywood, is a similar, but less elevated gravel-spit, laid down in quieter waters. At Ballyholme Bay, County Down, the villas fronting the sea are built on 24 feet of beach-gravels, their surface being now 20 feet above high water. At Kilroot, Carnlough, &c., in Antrim, Greenore in Louth, and very many other spots around the north-eastern coast, similar deposits of elevated marine gravels and sands may be seen.²

In Donegal, the elevated beaches show to great advantage; but here the conditions are somewhat different. Atlantic storms have formed grand terraces of coarse gravel, with steep faces. The existing beach, when well developed, consists of a steep slope of such gravel, rising to a height of about 20 feet above ordinary high-water mark, and dropping again at the back sometimes 10 or 15 feet. The raised beach appears as such a scarp of gravel, 30 to 40 feet in height, separated by flat cultivated fields from the present beach.³

The Estuarine Clay Series.

It is, however, in our bays and estuaries that the finest series of deposits are found. As these are usually seen only when excavations expose them, and as the beds consist largely of unsavoury mud, they did not attract for a long time the investigation which they deserved; but we have now a knowledge of them which is very important in dealing with post-Glacial land movements.

At the head of the basin which forms Belfast Lough, the post-Glacial deposits are of considerable thickness; and, on account of deep excavations made in connexion with harbour works, unusually good

¹ Praeger: "Report of a Committee of Investigation on the Gravels and Associated Beds of the Curran, at Larne, County Antrim." *Proc. Belfast Nat. Field Club*, series 2, vol. iii., pp. 198-210. 2 plates. 1890.

² For notices of these beaches, see Praeger: "Report on the Raised Beaches of the North-east of Ireland." *Proc. R. I. Acad.*, 3rd ser., vol. iv., pp. 30-64, plate I. 1897.

³ Praeger: "The Raised Beaches of Inishowen." *Irish Nat.*, vol. iv., pp. 278-286. 1897.

sections have occasionally been laid open to examination.¹ For our present purposes the extensive exposures on the site of the Alexandra Dock, which have been fully described,² may be taken (fig. 1). Here, overlying the latest Glacial deposits (fine red sands and clays), we find an old land surface,³ represented by a bed of peat, lying at a depth of some 28 feet below high-tide level. This is the oldest post-Glacial land surface in the district; and it shows, moreover, a higher level of the former land than is apparent from other local evidence. In this peat remains of "Irish Elk," Red Deer, and Wild Boar occur, but no remains of Man have been detected. Overlying the old land-surface is a series of marine deposits, showing varied depths of superincumbent sea. At Alexandra Dock there is first 6 feet of shallow-water clay; then above that 6 feet of clay of a deeper-water type, to which local workers, on faunistic evidence, have assigned a depth of at least 5 fathoms; and overlying this, further shallow-water deposits of clay and sand. The deep-water type of clay, which is the most remarkable bed of the series, is seen again in Larne Lough, in Lough Foyle, and in Strangford Lough.⁴ It varies but little in character in these different places, and has a remarkably abundant and beautifully preserved fossil fauna, which is indicative of a climate if anything milder than the present.⁵

¹ See S. A. Stewart: "The Latest Fluctuations of the Sea-level on our own Coasts." Eighth Ann. Report Belfast Nat. Field Club, pp. 55-57. 1871. And "A List of the Fossils of the Estuarine Clays of Down and Antrim." *Ibid.*, Appendix, pp. 27-40.

² Praeger: "On the Estuarine Clays at the new Alexandra Dock, Belfast." Proc. Belfast Nat. Field Club, series 2, vol. ii., Appendix for 1886-87, pp. 29-52. 1887.

³ It may be noted that Sir A. Geikie, who believes that many of the submerged peats do not represent former land-surfaces *in situ*, but were formed in lagoons, or by the sliding of beds of peat, has recently referred to this Belfast bed as one of the most satisfactory instances of submerged land-surfaces. (Q. J. G. S., vol. lx. (Proc.), page c: 1904.)

⁴ Praeger: "Report on the Estuarine clays of the North-east of Ireland." Proc. R. I. Acad., series 3, vol. ii., pp. 212-289. 1892.

⁵ It is worthy of note that in the Firth of Clyde, similar evidence of a slightly milder climate during the post-Glacial submergence has been adduced by Brady, Crosskey, and Robertson (Monograph of the Post-Tertiary Entomostraca of Scotland, &c., pp. 80-84. Palæontographical Society, 1874).

GEOLOGICAL HISTORY OF THE DISTRICT.

Late Glacial History.

With the fluctuations of level which took place in Glacial times we are not directly concerned; but the question of land-level at the close of the Glacial Period bears directly on our subject, as furnishing the starting-point of the series of movements with which we are dealing. The high-level shelly gravels, fossiliferous Boulder-clays, and eskers of Ireland, which were formerly held to indicate submergence during the Ice Age, are now generally believed by students of Glacial geology to have been formed by the transport of material by land-ice, and by waters flowing on the edges, or in the body of an ice-sheet.¹ This view has recently received, in the south of Ireland, strong confirmation in the finding by Muff and Wright² of an early-Glacial raised beach, extending far along the southern coast, and having a level of about 10 feet above that of the present beach. The deposits which rest on this beach, beneath the Boulder-clay, bear witness that at no time subsequent to their deposition has the land been relatively lower than at present. They point to a rise in the land-level of some 20 feet between the time when the beach was formed and the deposition of the Boulder-clay. This Glacial emergence of the land would appear to be a widely recognized feature in the British Islands, and may have been of considerable amount. It lasted on into post-Glacial times, as witnessed by the steady cutting down of the river-valleys during that period, and was succeeded by a widespread late post-Glacial submergence of somewhat less amount, which in the southern portion of the British Islands left the country as we now find it. W. Pengelly³ estimated the emergence on the south coast of England at 70 feet or more, the subsequent submergence at at least 40 feet. In the north of Ireland, this high land-level, without doubt, continued till after the growth of the deep peat-bed of the Belfast estuary, which postulates a level at

¹ See G. W. Lamplugh and others: "The Geology of the country around Dublin," 1903, pp. 45-48; and "The Geology of the country around Belfast," 1904, pp. 59-65. (Memoirs Geol. Survey, Ireland.)

² H. B. Muff and W. B. Wright: "On a Pre-Glacial or Glacial Raised Beach in County Cork." *Geol. Mag.* (4) x., pp. 501-503. 1903.

³ *Trans. Devon Assoc.*, vol. i., part iv., p. 34, 1865; and vol. ii., pp. 25, 134. 1867.

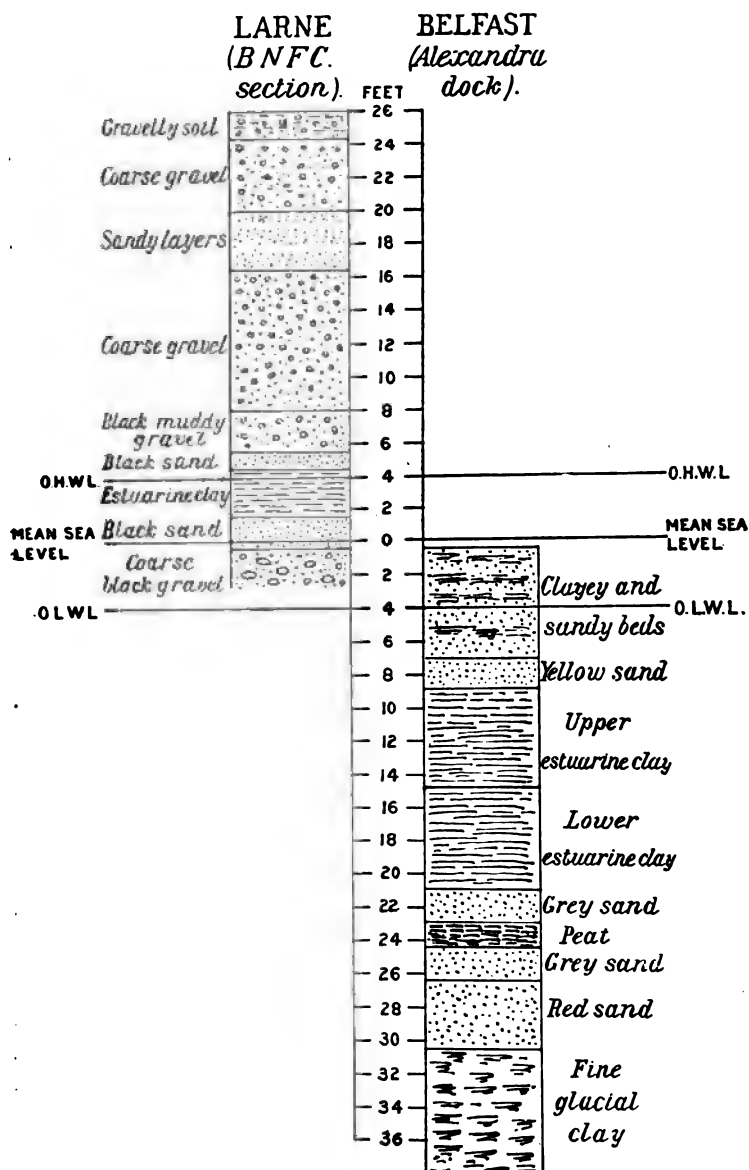


FIG. 1.
The Post-Glacial Series at Belfast and at Larne.

least 30 feet higher than at present. The persistence of this comparatively high land-level also accounts for the apparent gap between the Boulder-clay and the oldest post-Glacial deposit (usually peat) on which geologists in England, Scotland, and Ireland have commented. The sudden transition from beds showing Glacial conditions, to others witnessing a temperate climate, represents a long-enduring land-surface, and a wearing down of the Boulder-clay. Our local post-Glacial history then begins with a long period of emergence, and a land-level at least 30 feet higher than at present.

Post-Glacial History.

If we combine the information obtainable from the Larne raised beach with that revealed by a study of the Belfast sections, we may piece together a tolerably complete history of the post-Glacial fluctuations of land-level in the Belfast district. Larne lies 18 miles N.N.E. of Belfast. There is evidence that the final movement of emergence, at all events, increased northward, the east coast of Ireland being raised, so to speak, on a lever of which the fulcrum lay somewhere south of Dublin.¹ Nevertheless, the differential movement between Belfast and Larne must, if any, have been slight, and for purposes of general illustration may be neglected.

The Larne and Alexandra Dock sections, placed side by side and adjusted with respect to present sea-level, stand as shown in fig. 1. Leaving out of account any possible slight differential movement, we may slide these sections up or down together with reference to sea-level, and see how far they help us to unravel the history of the deposits. An emergence sufficient to bring the Belfast peat-bed above tide-level will raise the Boulder-clay on which the Larne section subsequently accumulated far above the sea—20 feet or more. No doubt, while the woods or copses which prevailed at Belfast were flourishing, the Boulder-clay at Larne was being eroded into the very undulating surface which it now exhibits under the raised-beach gravels. The sand, Lower or shallow-water Estuarine Clay, and Upper or deep-water Estuarine Clay, which, to a depth of 14 feet in all, cover the peat at Belfast, give evidence of a great and more or less continuous depression of the land, amounting to at least 60 feet below the level

¹ Edward Hull has devoted a short paper to this point: "On the Raised Beach of the North-east of Ireland," *Brit. Assoc. Report for 1872, Sections*, pp. 113-114. 1873.

previously prevailing. Following upon the assumption of a corresponding movement at Larne, we shall have the Boulder-clay then dipping below the waves at about the close of the time when the shallow-water clay was laid down at Belfast. On the former land-surface of Boulder-clay, beach-gravels, and in places muds, were laid down.

The continuance of the depression that allowed the Upper Estuarine Clay to accumulate in, say, five fathoms of water at Belfast, resulted in the formation of up to 12 feet of coarse beach-gravels, the highest beds in the Larne series. It may be pointed out that the same amount of submergence (26 feet below present mean sea-level), which would bring the top of the Larne gravels well within reach of the waves, would provide a depth of 6 fathoms of water over the surface of the Upper Estuarine Clay at Belfast, which is fairly within the depth—5 to 10 fathoms—for which local geologists have stipulated, on quite other—namely, faunistic—grounds. Subsequently a period of emergence set in. The Larne beds were raised above the sea, where they have remained ever since, and tell us nothing further of fluctuations of level; but the Belfast section continues the story. Overlying the Upper Estuarine Clay is a bed of clean yellow sand, full of washed single valves of shells derived in part from the upper clay. This shows that the deep-water clay has been raised to near tide-level, allowing the waves to wash over it, and eventually to throw down on it a beach deposit. And, finally, a slight movement of depression may be inferred from the fact that this clean yellow beach has been overlaid once again by muds full of littoral burrowing mollusks. Of this small recent depression of the land there is evidence elsewhere, in the form of peat-bogs now washed by the waves (as at Portrush), and so forth.

Graphic Representation of the Changes of Level.

The series of fluctuations of level above described may be represented graphically by a diagram such as fig. 1, Plate V. Let the vertical coordinate represent vertical distance relative to mean sea-level (the strong horizontal line); and let the horizontal coordinate represent geological time. There is a difficulty about the latter, as there are no data wherewith to gauge the period of time represented by each bed. But assuming, to render a diagram possible, a scale of uniform deposition in lieu of a scale of years, we may lay down our Alexandra Dock section horizontally across the top of the diagram to a convenient scale. Then

from the middle of each bed we drop a coordinate to the point which represents the average level (either depth of water or height above sea) at which, according to its fauna and other characteristics, we believe each bed to have been deposited. The movements of any point at Alexandra Dock relative to sea-level are then represented by the curve drawn as a firm line, the particular point chosen in this case being the base of the peat, where the post-Glacial series begins. The movements of the *surface* of the ground do not correspond with this curve, since the surface has kept rising, owing to accumulation of sediment; the dotted line represents the surface-level throughout the period in question.¹ The method is, of course, very rough-and-ready, but nevertheless shows the main features of the fluctuations under discussion. Viewed then according to the scale of accumulation at Alexandra Dock, the curve shows the fluctuations of level in the neighbourhood of Belfast. Assuming, as we have already done, that the same fluctuations of level occurred at Larne, we can apply this curve to the Larne section with interesting results (fig. 2, Plate V.). Here, on the same scale, the line *ZZ'* represents the Curran section at the present day, from the top to the surface of the Boulder-clay, adjusted to its present position as regards sea-level. The curve *WZ* will represent the fluctuation of the point *Z* (the surface of the Boulder-clay), according to the standard of the Belfast section. If we draw from *Z'* a parallel curve *Z'Y'X'*, this represents the simultaneous movement of the surface of the gravels until they dip down below high water at *N*. Working from the other end of the curve, we find that the base of Boulder-clay remains above the sea up to the point *M*. Therefore the deposition of the Larne gravels cannot have begun earlier than *M*, nor continued later than *N*; the gravels were deposited during the downward movement of the land represented by the curve *MX*. It follows that some line joining *M* to *N* will represent the highest level that the surface of the deposits could have had during the

¹ Leaving out of account, of course, any denudation that may have taken place, concerning which evidence is not available. The sharp line of demarcation between the top of the deep-water clay and the overlying beach-sand (line 5) undoubtedly represents denudation, and consequently time, perhaps of considerable amount; and the thickness of the beds at the close of the deposition of the upper clay (represented by that portion of line 5 which lies between the two curves) may have been greater, subsequently diminishing by denudation towards *E*, till finally, by the deposition of the beach-sand, the depth of deposits became *EE'*.

period of sedimentation. Now, the thickness of the Larne deposits—30 feet of inter-tidal or shallow-water deposits—shows that even at the point of maximum depression *X*, the surface of the beds was, at *X'*, only 2 feet below high water, and became land as soon as the movement of elevation set in. Further, the Larne section consists first (at base) of coarse gravels (probably intertidal), then littoral sands and shallow-water Estuarine Clay (probably laid down at or a little below low water), and then a thick mass of beach-gravels. Constructing a curve from these facts, as in the Belfast section, we get *MPN* as representing the surface of the Larne beds during deposition, *P* being the lowest point, when the bed of Estuarine Clay was laid down. Collating this diagram with fig. 1, it is seen that, as already stated, the whole Larne series corresponds in age with the Estuarine Clay of Belfast, and was deposited during the latter part of the downward movement up to the point of maximum depression.

In figs. 1 and 2, Plate V., the level of the sea is assumed as constant, and that of the land as fluctuating. If we assume instead the level of the land to have been constant, and that of the sea to have been fluctuating, the diagram will take a different and interesting form, shown to the same scale in fig. 3, Plate V. The assumption of an even rate of sedimentation will then give the line *A'F'* as representing the increasing thickness of the beds, each of which may be drawn in as shown. The vertical distance from any point on this line to the curve gives the depth of water (a negative quantity between *A* and *B*) at the time. The horizontal line *AF* shows the position (in this case one of rest) of the same point as chosen in fig. 1—namely, the base of the peat.

Summary.

To summarize the geological evidence. Far back in post-Glacial times, the land stood relatively higher than at present. The amount of this elevation was, at the time of the formation of the Belfast peat-bed, still at least over 30 feet above the level now prevailing. A long period of submergence ensued, during the latter part of which the Larne series was deposited. The total amount of this subsidence, as shown by independent evidence at Belfast and at Larne, cannot have been less than 55 feet; and it resulted in a land-level at least 25 feet lower than at present. We are faced by a difficulty here, as no 25-feet shelf has been so far detected in the district corresponding with this depression; but nevertheless the evidence lent by the fauna at Belfast, and the level of the beds at Larne, appears to admit

of no other interpretation. Even the Ballyholme beach stands higher than it should if correlated with the 10- to 15-foot shelf which is well marked in the district.¹ Elevation setting in, the land rose from the waves, till slightly higher than at present—probably about 5 feet above its present level. A slight movement of submergence in recent times has left the surface as we now find it.

It may be worth recurring for a moment to the question of the maximum submergence, since, as we have said, the shelf which is found around Belfast Lough, for instance, appears to point to a less amount of depression than is suggested by a study of the Belfast clays and Larne gravels—namely, to about 15 feet below present levels, in lieu of 25 feet. From 5 to 10 fathoms is the depth of water for which, on faunistic grounds, local geologists have stipulated for the Upper Estuarine Clay at Belfast. In the diagram (fig. 1, Plate V), we have taken a minimum, and allowed a depth of 6 fathoms (or 24 feet below present level) for the point of maximum submergence, which gives an average of $4\frac{1}{2}$ fathoms for the period of the deposition of the deep-water clay. This same maximum amount of submergence will bring the top of the Larne gravels 2 feet below high-water mark at the time of maximum depression, which corresponds with the observed nature of the surface-deposits of the Larne section. It may be argued that a smaller amount of submergence would suffice at Larne, inasmuch as the crest of the beach might have accumulated some feet above high water, having been heaped up by storms. To this we may answer that the conformation of the coast at Larne, and of the ground on which this beach was laid down, is against the formation of a storm-beach there; and further, that against the possibility of a storm-beach may be placed the fact that no allowance has been made for the sagging down which is almost sure to have taken place on a narrow gravel ridge, exposed since Neolithic times to atmospheric agencies and human industries.

The same difficulty of correlating the deposition-level with the erosion-level, it may be remarked, faces the geologist in Scotland. James Geikie, in dealing with the question of fluctuations of level, concludes that during the formation of the Carse, the sea "attained to a height above its present level of about 50 feet."² Yet the raised beaches belonging to this period of submergence have an elevation of 25 feet. Geikie remarks, relative to this point, that in many cases it

¹ See *Irish Naturalist*, vol. xiii., p. 146, 1904.

² "Prehistoric Europe," p. 402.

is evident that the sea of the 25-30-foot raised beach has demolished older higher beaches.¹ The same explanation had occurred to us: that in those places where a notch was cut during the time of greatest submergence, a more protracted pause in the emergence produced a more pronounced beach, which cut back into the former one and destroyed it.

As to the prevalence and distribution of the particular series of earth-movements which we have been discussing, there is little detailed evidence at present available regarding the earlier fluctuations. But in Ireland the final movement of elevation took place about a hinge which is situated somewhere southward of Dublin, where the raised beach, so conspicuous in the north-east, sinks to sea-level.²

CORRELATION WITH ENGLISH AND SCOTTISH LAND MOVEMENTS.

The area affected by the series of movements appears to be somewhat extensive, but nevertheless circumscribed; and while in central Scotland and northern England a practically identical history has been demonstrated, in many other districts, where the evidence is sufficient, it points to movements which cannot be fitted in with those of the north-east of Ireland. The literature of the post-Glacial deposits of England, Wales, and Scotland is voluminous, and the results and conclusions are such that it is often not easy to correlate them or to generalize, especially as regards the relation between the earth-movements described and human periods. We shall not here attempt any general survey of the subject, but will deal briefly with a few districts whence detailed evidence is forthcoming which bears on the movements with which we are at present dealing.

In the Lancashire and Cheshire area, the post-Glacial series has been especially studied by De Rance³ and by T. Mellard Read.⁴

About Liverpool, for instance, the coast sand-hills, or on lower grounds beds of silt, rest on a layer of peat, an old land surface,

¹ *Ibid.*, p. 418.

² See Edward Hull, *loc. cit.*

³ C. E. De Rance: "On the Postglacial Deposits of Western Lancashire and Cheshire," *Q. J. G. S.* xxvi., 655-668. 1870. And "The Superficial Deposits of south-west Lancashire." 1877. (*Mem. Geol. Surv.*)

⁴ Consult *Proc. Liverpool Geol. Soc.*, sessions 1871-2, 1877-8, 1881-2, 1882-3, &c.; *Sci. Proc. Roy. Dublin Soc. (N.S.)*, ii., pp. 255-258; *Geol. Mag.*, 1896, pp. 488-492; ditto, 1900, pp. 97-104; *Q. J. G. S.*, xlv., pp. 291-299, 1888. Et cætera.

with stools of Oak, Scotch Fir, Birch, &c., and remains of extinct Pleistocene mammals. Under this repose beds of blue marine clay, with *Serobicularia piperata*, &c., which rest in turn on an eroded surface of Boulder-clay, which in certain places bears beds of peat in its depressions. The conclusions which De Rance and Reade draw from their studies of the Lancashire series are identical in all essential details, and may with advantage be ranged in parallel columns with the Irish results. The account of the English sequence here given is abridged from a demonstration given by Mr. Reade to the members of the Geological Society of Liverpool, at Leasowe, on June 2nd, 1883.

MERSEY DISTRICT.

- (1). Land surface of Boulder-clay, acted on by subaerial denudation.
- (2). Growth of peat ("Lower Forest Bed") upon this surface.
- (3). Submergence to a depth of 25 feet below present level.
- (4). Formation of blue marine clays (the "Formby and Leasowe Marine Beds").
- (5). Elevation until the land stood "much higher than at present."
- (6). Formation of peat now submerged ("Upper Forest Bed").
- (7). Partial submergence, with formation of sand-dunes, silts with Roman remains, &c.

BELFAST DISTRICT.

- (1). Land surface of Boulder-clay, acted on by subaerial denudation, seen both at Belfast and at Larne.
- (2). Growth of peat upon this surface, seen at Belfast.
- (3). Submergence to a depth of at least 25 feet below present level.
- (4). Formation of blue marine clays (the Lower and Upper Estuarine Clays).
- (5). Elevation until the land stood about 5 feet higher than at present.
- (6). At Belfast, formation of beach deposits now buried. In other places, of peat.
- (7). Slight depression, submerging the beds mentioned in (6).

A closer parallelism is hardly possible. The only discrepancy between the two series is shown at (5). Here Reade contends for an elevation considerably greater than that now prevailing, which united England to the Continent. In Ireland we so far find evidence of only a slight elevation above present levels. It is important to note that the formation of the latest beds of the series—the silts, overlying the superior peat—dates back to Roman times.

In the Isle of Man, which lies midway between Antrim and Lancashire, the post-Glacial series, so far as it goes, bears out the order of events above described. G. W. Lamplugh states that the only recognizable post-Glacial marine deposit is a widely extending raised

beach, 10 to 12 feet above high-water mark, which bears on its surface Neolithic chipped flints. Where the beach is broad, the flints are much more abundant on, if not confined to, the landward parts; so that while this portion had been already elevated in Neolithic times, the elevation of the seaward portion may be post-Neolithic. There is some evidence of a slight subsequent submergence.¹

In the north-east of England, in the Humber estuary, a very similar order of events can be adduced. The evidence goes to show a high post-Glacial land surface—an eroded surface of Boulder-clay some 50 feet higher than the present land-level. Peat formed on this surface in a temperate climate. Then came rapid depression and deposition of a considerable thickness of marine warp. Emergence succeeded, as witnessed by an upper peat-bed. A final slight submergence is indicated by the fact that this upper peat is now near low water; but Clement Reid suggests that the apparent depression may be due to a change in the tides. No human remains help to date any of the movements of the series.²

In central Scotland, also, though authorities have differed as to the dating of the changes of level, the phenomena present a striking concordance with those observed in our own district. An excellent general description of the post-Glacial succession is given by Jamieson.³ Above the Glacial deposits in the valleys of the Tay and Forth lies a bed of peat, an undoubted land surface, on which rest the Carse clays, marine silts which yield a fauna identical with that of our Lower Estuarine Clay, *Scrobicularia piperata* being characteristic; their fauna indicates "a climate, if anything, milder than at present." Elsewhere around the coast raised beaches, corresponding in elevation with the Carse deposits, are frequent. Resting on the Carse clays or raised beaches, peat, 8 to 14 feet in thickness, occurs in places, and thick masses of blown sand. Also shell-mounds with chipped flints, and elsewhere worked flints lying on the material of the old beach. The level of the Corses and beaches shows a former depression of 25 to 30 feet below present levels around the Frith of Forth;

¹ "The Geology of the Isle of Man," pp. 402-4. 1903. (Mem. Geol. Survey)

² S. V. Wood, jun., and J. L. Rome: "On the Glacial and Postglacial Structure of South-east Yorkshire," Q. J. G. S., xxiv., pp. 156-159. 1868. Clement Reid: "Geology of Holderness," pp. 77, 111. 1885 (Mem. Geol. Survey.)

³ T. F. Jamieson: "History of the last geological changes in Scotland," Q. J. G. S., xxi., 161-203. 1865.

but this elevation *decreases* northward to some 8 feet in Aberdeenshire.

Thus to the comparison of movements in the Belfast and Mersey districts on p. 158, we may add the following succession of events in the Forth and Tay districts as sketched by Jamieson :—

- (1). Land surface of Boulder-clay, at a higher level than the present land surface.
- (2). Growth of peat upon this surface.
- (3). Submergence to a depth of 25 to 30 feet below present level.
- (4). Formation of estuarine beds (the Carse clays), raised beaches, and caves. Man now in the country.
- (5). Elevation to about present level.
- (6). Accumulation of peat and of blown sand.

Though not so complete as the Irish or English accounts, it will be seen that the above closely follows these, and only differs in the absence of certain details which further investigation might have supplied.

Jamieson and subsequent authors record the finding of traces of man of various ages—stone celts, dug-out canoes, and anchors, &c., of iron, in the Careses; and the occurrence of the last-named led Sir A. Geikie¹ and others to infer a Roman or post-Roman age for the elevation. But Munro,² in a recent summing-up of the question, discussing the age of the uplift, concludes that “in Scotland this movement was subsequent to the appearance of man in the district, but prior to the Roman occupation of Britain.” In his examination and cross-examination in the “gold ornaments” trial,³ Munro fully deals with the evidence, which he regards as untrustworthy and inadequate, which has been put forward relegating the uplift to the period when iron was in use in the country or to a subsequent time; and he strongly expresses his opinion in favour of a pre-Christian, and possibly Neolithic, date for the elevation of the land.⁴

¹ “On the date of the last elevation of central Scotland.” Q. J. G. S., xviii., 218–232. 1862.

² *Loc. cit.*, p. 285.

³ *Loc. cit.*, pp. 94–101.

⁴ NOTE ADDED IN PRESS.—Since the reading of our Paper, Dr. Munro has reverted to this question, and published an important Paper (Proc. Roy. Soc. Edinb., vol. xxv., pp. 242–272. 1904) on the age of the final uplift in Scotland, *à propos* of the evidence given at the “gold ornaments” trial, already referred to. In this,

Another important general account of the central Scottish post-Glacial series is given by James Geikie.¹ After pointing out the apparent break in the succession (see p. 152, *supra*) which occurs between the newest Glacial deposits and the overlying beds, he says that the submerged peat, which is in many places present as the oldest member of the post-Glacial series, is in the estuaries of the Forth and Tay of clearly older date than the 25-foot raised beaches and the Carse clays, since it may everywhere be seen passing underneath them. The peat is now generally found at about mean-tide level, but varies in level from high tide to below low tide. It is abundantly proved to be an old land-surface, and shows a higher former land-level than that at present existing. The plants of the peat prove that the climate at the period of its deposition was not less genial than the present climate. The Carse clays overlies the peat to a depth of from 10 to 45 feet, their surface being generally from 25 to 45 feet above present sea-level. These clays are of estuarine origin; marine shells occur in them in the lower parts of the valleys, *Scrobicularia piperata* being characteristic. They consist of fine silts, usually dull brown or dirty gray in colour; and certain characters seem to point to a greater rainfall than at present, and a lower winter temperature, with local glaciation in the mountain valleys.

the evidence assigning a Roman or post-Roman date to the upheaval is destructively criticised in detail, and the Kincardine Roman road and bronze caldron are discussed as proving a pre-Roman land-level as high as that existing at present. Towards the close of the Paper, some further important evidence is quoted—namely, the finding of a Bronze Age cemetery at Joppa (Proc. S. A. Scotland, vol. xvi., p. 419. 1882), the interments being 4 to 6 feet below a ground surface which is only 12 to 14 feet above high-water mark; and the finding of a set of bronze axes of early type on the sea-shore, near Culzean Castle, Ayrshire (Proc. S. A. Scotland, vol. xvii., p. 436. 1883), in a crevice beneath a ledge of rock, against which were heaped up a few feet of gravel, the spot being about 25 feet above high water. The first of these finds clearly proves that the movement of elevation was at least nearly complete in Bronze Age times. From the circumstances of the second find, Dr. Munro draws the conclusion that the upheaval was not yet complete at the beginning of the Bronze Age, since he assumes the “few feet of gravel” to be deposited by the sea. But in the absence of geological evidence bearing out this assumption, and showing that the gravel was actually portion of an undisturbed raised beach, we cannot consider the case for a termination of the emergence so late as the Bronze Age, as proved. But, in any case, it is difficult to distinguish between late Neolithic and early Bronze Age, and the main facts go to maintain a very much pre-Roman date for the emergence.

¹ “Prehistoric Europe,” chaps. xvi.—xvii. 1881.

This description, taken from the deposits of the Tay basin, applies equally to those of the Forth, except that here the peat has not been actually seen. Canoes and "rude implements and weapons" have been found in the Carse clays down to a considerable depth, but rarely. Subsequent to the deposition of the Carses, the sea retired from about 50 feet above present level to 25 feet above present level, where a pause resulted in the formation of well-marked beaches, with which are associated bronze implements; the fauna shows a climate not colder than the present. The final elevation took place "long after the knowledge of metals had been introduced."

The author's summary of the succession of events in the valleys of the Tay, Forth, and South Esk, may be digested as follows:—

- (1). Long after the "retreat of the Glacial sea," the land stood higher than at present, and arboreal vegetation extended widely, in a climate not less genial than the present.
- (2). Submergence to a depth of 25 to 40 feet below present level. Accumulation of marine silts with *Scrobicularia piperata*.
- (3). Accumulation of thick beds of silt. Water generally too fresh in the estuaries for marine molluscs.
- (4). Elevation until the land stood higher than at present.
- (5). Depression, bringing about present conditions.

The extremely close correspondence of this series of events to that we have described in the north of Ireland, and also to the Mersey series (p. 158, *supra*), will be at once noticed. The only important difference lies in the correlation of the fluctuations with the periods of early human history. While making the 50-foot submergence, during which the Carses were formed, Neolithic, James Geikie dates the 25-foot raised beaches, which resulted from a pause in the emergence, as of Bronze Age.¹ But while the evidence shows that these beaches are not newer than that, they may prove to be older, as we believe is the case with the corresponding beach in Ireland.

In the district of East Fife, while admitting the succession

- (1). 25-foot raised beach,
- (2). Peat,
- (3). Glacial beds,

¹ *Loc. cit.*, pp. 402-3, 428-9.

as recorded by Thomas Brown,¹ Sir A. Geikie² considers that the evidence for post-Glacial submergence of even a small extent is not convincing, and agrees with Fleming,³ who, long before, referred the formation of the peat (which in that district occurs as low as low-water mark) to accumulation in lagoons.

In central Scotland, then, as in north-western England, we find a series of oscillations closely corresponding with those of our district. Opinion as to the date of the several movements in England and Scotland is not concordant. It seems clear that the material for a thorough investigation of the question is available on the ground, and such a research appears highly desirable.

Limits of the Area affected by the Fluctuations.

Jamieson's observation concerning the decrease in elevation of the post-Glacial raised beach *northward* of the Forth is highly interesting, and may excuse a brief divergence from the subject immediately at hand. His observation is borne out by the absence of raised beaches in Orkney and Shetland, on which Sir A. Geikie has quite recently commented;⁴ and James Geikie, writing of the excellent development of the 25-foot beach in the Forth district, remarks that "further north the best-marked raised beaches occur at lower levels."⁵ In Ireland, the decrease of elevation *southward* is very marked; and it would appear that the final movement of elevation, at any rate, was greatest in northern England, southern Scotland, and northern Ireland.

In Ireland, south of this area of uniform movements, the widely-extending early-Glacial raised beach, to which reference has already been made (p. 150), points to a land-level not lower than the present ever since Glacial times, since a depression of even a few feet would have resulted in a sweeping away by the waves of the loose deposits of the Glacial beach. On the Welsh coast opposite, the bone-beds

¹ "On the arctic shell-beds of Elie and Errol, viewed in connexion with our other glacial and recent deposits." *Trans. Roy. Soc. Edinb.*, xxiv., pp. 617-634. 1867.

² "Geology of Eastern Fife," pp. 306-321. 1902.

³ "On a submarine forest in the Frith of Tay." *Trans. Roy. Soc., Edinb.*, ix. pp. 419-431. 1822.

⁴ "Anniversary Address," 1904, *tom. cit.*, pp. xciii, ciii.

⁵ "Prehistoric Europe," p. 418.

of the caves at Gower,¹ which rest on a beach 10 to 30 feet above the present beach, and are older than the Boulder-clay, bear witness to a similar absence of post-Glacial submergence of any considerable amount in south Wales. And in the same district, as regards post-Glacial times, the series of alternating silts and peats at Barry Docks, carefully placed on record by Strahan,² points to a steady dropping of the land, amounting to 55 feet, during a period extending from some time after the close of the Glacial epoch to apparently the present day. But the dating of the uppermost peat-bed at Barry as Neolithic, on account of the occurrence therein of a fragment of a polished flint celt, which, according to Professor Hughes, "seems to have been used subsequently as a strike-a-light," though accepted by Sir A. Geikie, can hardly be considered satisfactory—though it is quite possible that that bed is Neolithic.

At Southampton the Neolithic or post-Neolithic age of the submergence seems better established. We have not seen the Paper of T. W. Shore and J. W. Elwes,³ quoted by Sir A. Geikie,⁴ but it would appear that a third bed of peat, descending to 43 feet below mean-tide level, yielded, in addition to an abundant flora similar to the present, and remains of Red-deer, Boar, Hare, Reindeer, and *Bos primigenius*, some flint-flakes, a hammer-stone, and a bone needle. These records are not inconsistent, the Cork beach proving Glacial elevation and post-Glacial depression, the Barry and Southampton silts and peats, lying at a lower level, representing the latter movement only. But, in any case, the evidence at either Cork, Barry, or Southampton precludes such a sequence of movement as took place in northern Ireland.

In Devonshire, an identical succession of events was traced by Ussher⁵ a quarter of a century ago—namely, "intra-Glacial" beach-formation, considerable elevation, growth of forests and formation of peat, and gradual submergence bringing in present levels. Professor Boyd Dawkins, after quoting from Godwin-Austen (Geological Report

¹ R. H. Tiddeman: "On the Age of the Raised Beach of Southern Britain, as seen in Gower." Report of Brit. Assoc. for 1900, pp. 760–762.

² A. Strahan: "On submerged Land-surfaces at Barry, Glamorganshire." Q. J. G. S. lii., pp. 474–489. 1896. A. Strahan and T. C. Cantrill: "The Country around Cardiff," pp. 82–94. 1902 (Mem. Geol. Surv.).

³ Papers and Proc. Hampshire Field Club, no. iii., p. 43. 1889.

⁴ "Anniversary Address," 1904, *tom. cit.*

⁵ W. A. E. Ussher: "The Chronological Value of the Pleistocene Deposits of Devon." Q. J. G. S., xxxiv., pp. 454–458. 1878.

on Cornwall, Devon, and West Somerset, in Q. J. G. S., **xxi.**, 1865) a similar succession, narrates his own finding of worked flints in angular detritus and clayey land-wash underlying submerged forest-beds in Devonshire.¹

There is, indeed, in the British Islands widespread evidence of Glacial emergence, a high land-level extending into post-Glacial times, and post-Glacial submergence. It is the sharp Neolithic uprise that is the distinctive character of the Belfast-Forth-Mersey area.

In this connexion it is to be noted that Munro,² from a survey of the European evidence, concludes that along a line passing from the north of Ireland through central Scotland and Sweden, the land has risen during the Neolithic period; while in the south of England, Brittany, extreme south of Sweden, southern Baltic, and central Europe, the land has been gradually sinking during that same period. Mellard Reade, on the other hand, believes he finds in Belgium³ records of a series of oscillations closely corresponding with those of Lancashire. So that the impression produced by a rapid survey of the evidence is that these recent slight fluctuations are of an uneven and local character.

This conclusion, it may be pointed out, has more than a local interest, bearing, as it does, on the question as to whether such changes in the relative level of sea and land are actually due to a displacement of the level of the ocean or of the land-masses. The evidence which we have had under review lends no support to the contention of Suess⁴ that these changes are due to a variability of the sea-level, but tends to confirm the view lately restated by Sir A. Geikie that "the changes of level of which our islands furnish such signal illustrations, have been primarily due, not to any oscillations of the surface of the ocean, but to movements of the terrestrial crust connected with the slow cooling and contraction of our globe."⁵

¹ "Early Man in Britain," pp. 247-248. 1880.

² Robert Munro: "On the Relation between Archæology, Chronology, and Land Oscillations in Post-glacial Times." *Archæological Journal*, **lv.**, pp. 259-285. 1898.

³ Q. J. G. S., **liv.**, pp. 575-581. 1898.

⁴ "Das Antlitz der Erde."

⁵ "Anniversary Address," 1904, already quoted.

FURTHER NOTES ON THE LARNE RAISED BEACH.

The raised beach of the Curran, at Larne, is of the highest importance in our present subject, considered either geologically or archæologically. Seven or eight years ago the Northern Counties Railway Company cleared out the gravel, which formed an escarpment on the southern side of their line at Larne Harbour, back to the boundary of their property, and dressed the cutting down to an even slope; and thus the classical section of the Larne raised beach, so often visited by geologists and archæologists, disappeared for ever. Fortunately, this section—the most instructive which the Curran of Larne has yielded—had previously been systematically investigated, described, and measured. Other sections, formerly available, are also no longer exposed. Last Easter, with kind aid from Mr. B. D. Wise, chief engineer to the railway company, we spent three days directing digging operations at the Curran, in order to procure for the Academy's collection a further series of localized worked flints from various depths in the gravels. In view of the destruction of former sections, and the prospect of building or other operations obscuring those that remain, it may be well to place on record what observations we made, and to attempt a general description of the geological topography of this interesting spot from the materials that are available.

The general configuration of the ground is seen in Plate IV. The Curran consists of a long tapering gravel-spit, rising from 10 to 20 feet above high-water mark, and extending from the west side of the narrow entrance of Larne Lough southward into the waters of the bay for a distance of three-quarters of a mile. The gravels are clean, and include many marine shells; they rest in some places on Boulder-clay; in other sections, a bed of blue Estuarine Clay, accompanied by blackish sands and gravels, is interposed between. The peculiar interest of the Larne raised beach in local geology and archæology, as is well known, rests on the fact that from top to base (a maximum depth of 20 feet) it yields worked flints of Neolithic type.

The geology of the Curran having been already described in several papers,¹ we need not repeat here what is already published, but proceed at once to the additional details which we wish to place on record.

¹ For an account of the literature of the subject, and of the beds themselves, see Praeger's "Report on the Larne Gravels," "Report on the Estuarine Clays," and "Report on the Raised Beaches," already referred to.

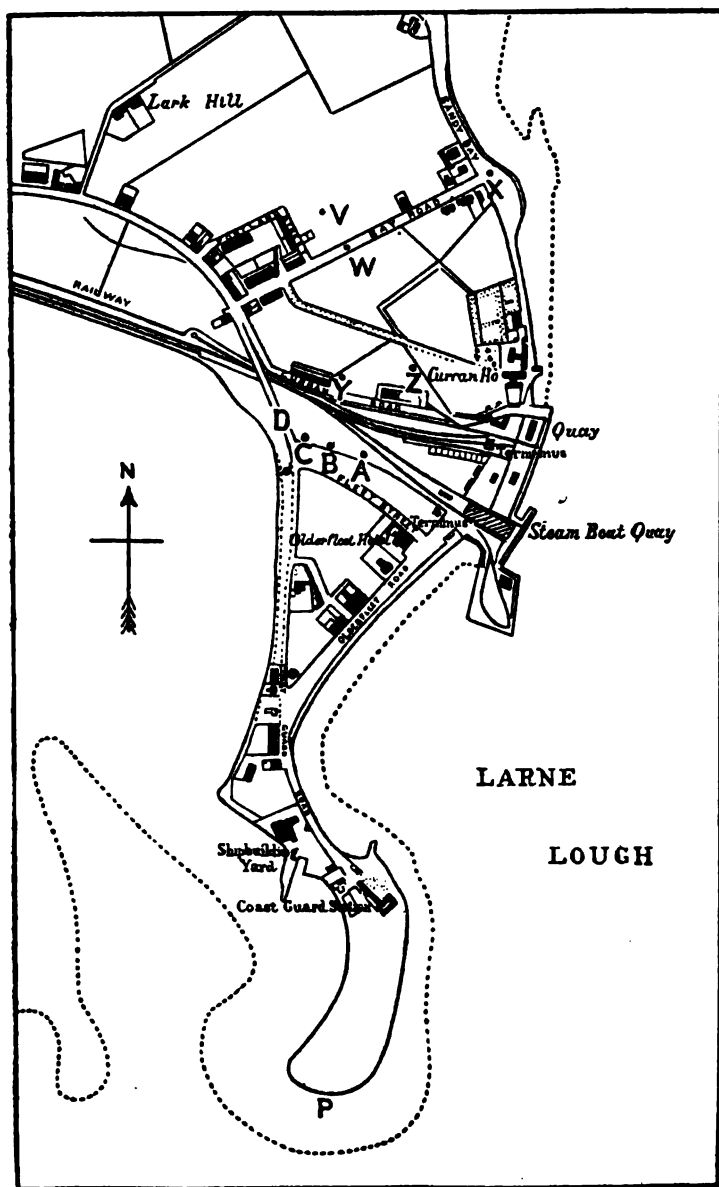


FIG. 2.
Map of the Curran at Larne. Scale—6 inches to 1 mile.

A ridge or mound of Boulder-clay, which attains a maximum height of 18 feet above present high water, runs (or ran—for much of it has been long removed) north-east from the south side of the arch over the railway across the site of the British Aluminium Company's works (from *D* to *Y* on plan, fig. 2). This ridge has a steep slope on either side. Southwards, at the extreme point of the Curran, the Boulder-clay is seen again a couple of feet above high water. In the opposite direction, the ground drops to the northward; and a depression runs across the base of the Curran promontory from sea to sea. Bay Road, which is level from end to end, occupies the centre of this hollow. Cuttings here showed no trace of Boulder-clay down to about half-tide level. It is evident, therefore, that during the period of submergence in which the gravels and associated beds accumulated, this ridge of Boulder-clay formed an island, and later a tidal bank, against and finally over which the gravels were deposited. That the Boulder-clay ridge was exposed to the action of the waves before it got covered over with gravels was evident in one of our trial pits, where its surface was found to be covered with large sub-angular blocks of stone clearly derived from the attrition of the clay. On this boulder-beach, the characteristic implement-bearing gravels were laid down to a depth at this spot of 10 feet. The Boulder-clay bank rises near its northern end (at the Aluminium Works) to 18 feet above present high water, or only 2 feet less than the highest point of the gravels. The gravels are thickest just to the leeward (southward) of this knoll; and the whole conformation of the Curran shows that the gravels collected around, and as a long tail behind this Boulder-clay islet, on each side of which the tides streamed up and down.

Prior to the deposition of the gravels, fine blue Estuarine Clay was laid down in the depressions, both to the north and south of this knoll. The formation of this mud is not so easy to account for, requiring, as it does, water free from violent currents. Perhaps we may reasonably assume that at that period the gravels formed a barrier further on the seaward side, and shut out the waves of the open sea, even as the Curran gravels do now; and that on further subsidence of the land, the gravelly beach advanced till it covered the clay as at present. Across the Bay Road depression, a broad, yellow, sandy beach-deposit intervenes between the clay and the overlying gravels, facing the open sea; but on the other side of the Boulder-clay islet, fronting the sheltered waters of the lough, thin beds of black sand, the product of the muddy waters of the bay, overlies the clay.

The gravels themselves vary greatly in the sections exposed, not

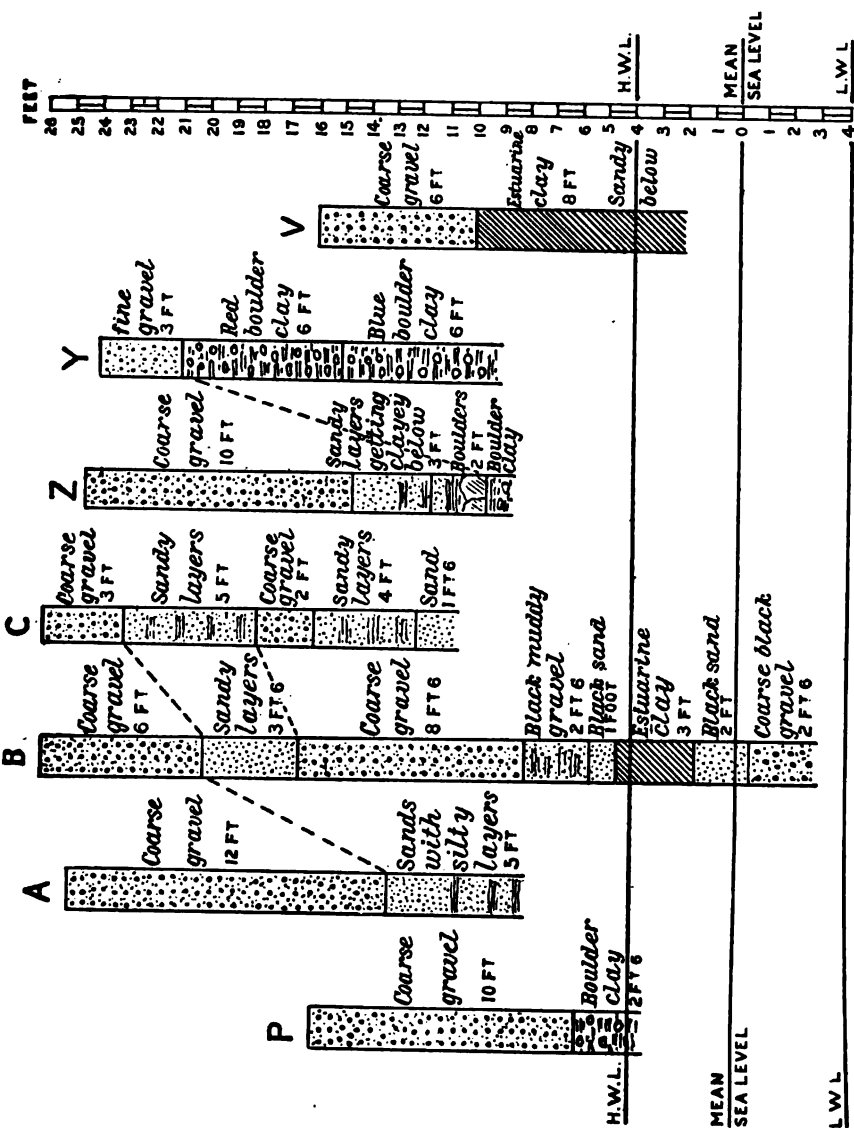


FIG. 3.
Measured Sections of the Larne Raised Beach.

only in thickness, but in their texture. A coarse, clean gravel, with an abundant sandy matrix, is the characteristic deposit. The pebbles are chiefly basalt and chalk; with them are occasional pieces of the Cushendun eurite, the riebeckite granophyre of Ailsa Craig, and other erratics common in the local Boulder-clays, from the washing down of which the gravel is probably in large part derived. The base is usually sandy; and at various levels in the gravels, sandy beds several feet thick alternate with the coarser material. The several zones are often cross-bedded; thus, in the section examined by the Belfast Field Club in 1889, two thick beds of coarse gravel were separated by several feet of sands, all three zones having a different bedding. At the harbour ballast-pit (*Z* on fig. 2), recently examined, on the other hand, 10 feet of gravels and 3 feet of underlying sands had a uniform, slight dip northward from top to base (Plate VII.).

A sufficient number of sections of the Curran beds is now available to allow us to understand the modelling of the spot. In fig. 3 these sections are shown, excepting a section along the line *WX* (Bay Road), which has been already illustrated in the Academy's *Proceedings* (3rd series, vol. iv., plate 1, 1897). The position of the several sections is marked on the plan, fig. 2. The section exposed on the beach at Curran Point (*P* on plan) shows the gravels resting on Boulder-clay at a little above high water. No section is then available till we come to the railway cuttings, where the fine series of beds exposed by the digging of the Belfast Field Club Committee in 1889 (*B* on plan) shows a depression of the Boulder-clay, occupied by the Estuarine Clay series, overlaid by a great depth of beach-gravels. Sections *A* and *C* were measured by us on our recent visit. The three sections *A*, *B*, *C* form a west-to-east cross-section along the southern edge of the railway cutting, *A* being distant 150 feet from *B*, and *B* 170 feet from *C*. Only 350 feet northward of this cross-section, the Boulder-clay has risen up to form the islet already described, *Y* being on the summit of the knoll in the Aluminium Works. The section at *Z* in the harbour ballast-pit, 300 feet eastward of *Y*, shows the rapid dip of the Boulder-clay, and its sea-eroded surface. Finally, 800 feet to the northward of the knoll, we have the section *V* (now destroyed) at the old pottery, where again the Boulder-clay has dipped, and the Estuarine Clay fills the hollow, with beach-gravels above it. The cross-section *WX* along Bay Road, referred to above as already figured in these *Proceedings*, must finally be added to the series.

To trace briefly the history of the Curran. In early post-Glacial times, we find a ridge of Boulder-clay occupying roughly the site of

the present raised beach. At the period of the growth of the peat-bed of Belfast—the earliest post-Glacial deposit locally recognisable—this ridge was joined by a broad base to the rising lands north of Larne town; and its crest was at least fifty feet above high water. Depression setting in, the ridge, lying in the tide-swept entrance of Larne Lough, suffered denudation, and the sea presently broke through across the neck which joined it to the mainland. The sweeping away of the clay on the seaward-(eastern) side left a beach of boulders, which no doubt served to check further denudation. A barrier, probably of gravels, occupying somewhat the position of the present sea-margin from the steamboat quays northward, allowed of the deposition locally of fine mud and blackish sand in the shallow waters at the back of it. As submergence continued, we find a mass of yellow sand, full of shells, thrown across the seaward end of the Bay Road channel, and gravels began to be laid down against and around the Curran islet, especially on the southern side, where they formed a long tail moulded by the tides. Depression continued to a total amount of some fifty feet or more, and until the islet sank below the sea, allowing a few feet of gravel to cover its highest point. By a subsequent emergence (and, according to the evidence of Belfast and other places, a final slight depression), the Curran was left as it was until the advent of railways and factories broke up its surface, and exposed for a while cuttings through the several beds of which it is built up.

ARCHÆOLOGY.

At many places on the raised beach, between Greenore, County Louth, and Portstewart, County Londonderry, flint flakes, with occasional rude "implements," have been collected.

The shores of Belfast Lough were formerly a famous collecting-ground, notably at Kilroot, on the Antrim side, where large coarse flakes were abundant. The growth of watering-places and great increase of building along the shores of the lough have destroyed most of the best sites. At Ballyholme Bay, on the County Down side, a fine section of the beach was formerly exposed, but the face has been since trimmed to an even slope, and sown with grass.

THE LARNE FLINTS.

The most important site now remaining is at Larne, County Antrim. Attention was first directed to this site by G. V. Du Noyer, of the Geological Survey, Ireland, in 1868.¹ Since that date it has been a favourite resort of collectors, on account of the abundance of the flakes, and ease with which they can be gathered. Indeed, the flakes are so abundant that the untrained visitor finds it hard to believe that they are not due to some natural cause.

The Field Club Report.

The question whether the flint flakes are found only on the surface and in the disturbed surface layers, or throughout the gravels, had been for some time in controversy, when, about 1886, a committee of the Belfast Naturalists' Field Club was appointed "to investigate the Larne gravels, and determine the position in them of the flint flakes and cores for which they are noted." The final report of the committee, drawn up by R. Ll. Praeger in 1889, represents the first systematic examination of the raised beach of the north-east of Ireland in regard to the distribution of the worked flints in the gravels.²

¹ Q. J. G. S., vol. xxiv., p. 495; *Journal R. G. S. I.*, vol. ii., p. 169. Du Noyer presented collections of specimens from Larne and Belfast Lough to the Museum of the Geological Survey, Ireland, and to the Jermyn-street Museum, London.

² Proc. Belfast Nat. Field Club (2), iii., pp. 198-210, 1890.

A section was opened on the southern side of the railway cutting through the Curran, at a spot where the surface of the gravels stood 22 feet above high-water level. The section was cleared down to the estuarine clay, a depth of 21 feet. A trial pit was further sunk through the estuarine clay to a depth of 8 feet, or in all a depth of 29 feet below the surface of the gravels.

As regards the distribution of worked flints in the principal section, it was found that the uppermost layer of gravelly soil (1 foot 6 inches) yielded flakes in the greatest profusion. The flakes were all of a very rude type, with little appearance of secondary chipping, the edges blunt, and the surface much oxidized. Undoubted cores were rare, and no scrapers or other implements were found.

In the succeeding coarse gravel (4 feet 6 inches) much fewer flakes were found, and their number rapidly diminished as the depth increased, ceasing altogether at a depth of from 4 to 5 feet below the surface. In character the flakes were identical with those from the surface layer.

In the next following sandy layers (3 feet 6 inches) flakes were very rare, only two being found.

In the coarse gravel below the sandy layers (8 feet 6 inches) flakes occurred sparingly all through the bed; a few cores were found, and a fine example of a rude "celt" (at a depth of 11 feet from the surface). It was noted that the flints were fresher and less oxidized than those in the upper gravel, and the edges sharper.

In the next bed, black muddy gravel (2 feet 6 inches), one fine flake was found at a depth of 19 feet from the surface. This bed could not be thoroughly examined on account of water rising in it.

The statement that "undoubted cores were rare" is unexpected, as cores can be picked up in numbers in the talus of the gravels, and along the beach wherever a section is exposed. They are generally coarse and defective, as if discarded after a few trial flakes, and are usually much weathered. The good pieces were probably worked out, and fine cores are very rare, but the characteristic core-form of those which can still be collected in large numbers is unmistakable, though they probably should be looked on as wasters for the most part rather than serviceable cores.

The specimens collected by the committee of the Belfast Field Club are unfortunately no longer forthcoming. It cannot be too strongly insisted that in all such cases a type series of specimens should be placed in some public museum for future reference.

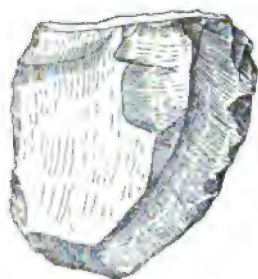
Personal Investigations.

In 1897, we (the writers of this paper) made a further examination of the Larne gravels, particularly for the purpose of procuring specimen sections for the National Museum. Mr. J. St. J. Phillips and Mr. R. Welch, of the Belfast Naturalists' Field Club, also gave their services; and Mr. B. D. Wise, M. INST. C.E., engineer to the Northern Counties Railway, most kindly gave all the facilities in his power for the work.

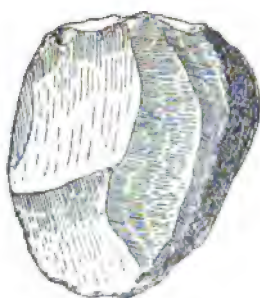
A section was opened on the southern side of the railway cutting in the Curran, close to the spot where the Field Club section was excavated in 1889. (The sandy band is a marked feature in this section of the beach, and for purposes of description it will be convenient to use the terms "upper gravels" and "lower gravels" to distinguish the beds of coarse gravels above the sandy layer from those below it.) Specimen portions, with included flints, were taken here of the upper and lower gravels. A core was got at a depth of 4 feet (fig. 4, No. 1), and another (below the sand) at a depth of 11 feet from the surface (fig. 4, No. 2). But very few cores or flakes were got in this section, except in the surface layers. In the aluminium works, at the other side of the cutting, a good sample of the disturbed gravelly surface soil containing numerous flakes was taken.

Close to the gate lodge of the aluminium works a good section was exposed, fronting the public road which runs beside the railway. Here the gravels thin out on the bank of Boulder-clay already described (*ante*, p. 168). The section showed about 5 feet of the gravels resting directly on the Boulder-clay. A photograph having first been procured (Plate VI.), a continuous section was taken from the surface to the Boulder-clay, about 1 foot wide by 1 foot deep. It has been re-erected in the Museum, where the other part sections have also been placed.

During the excavation a considerable collection of flakes and cores was made, each specimen being marked at the time, according to the place and depth from which it was taken. These have likewise been placed in the Museum, and lettered to correspond with the levels of the sections. No scrapers were found, and only one flake with secondary working. It was taken from a depth of about 1 foot 8 inches in the aluminium works section. Our examinations of the gravels last Easter confirmed the previous results. We shall speak later of the flints collected on that occasion.



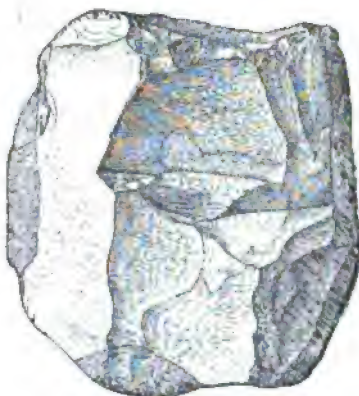
1, near B, 4' 0"



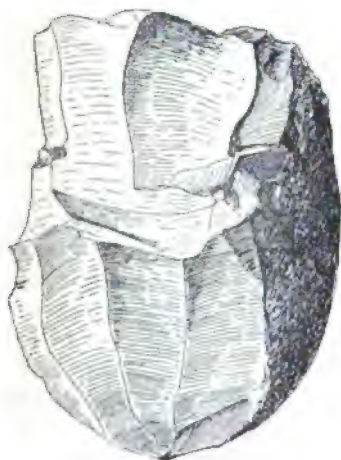
2, near B, 11' 0"



3



4



5, near Y, 4' 6"



6, near P, 7' 0"

[FIG 4.—Cores from Larne. ½]

Patination and Abrasion.

The flakes from the surface layers and upper beds of coarse gravel are deeply patinated, presenting a white delft-like appearance. The edges are much chipped and abraded. In the lower beds the flints appear to be somewhat less deeply patinated, and—a more important difference—are, as a rule, sharper at the edges. This distinction had been already noted by the Field Club committee.

Mr. Knowles states that he has found flakes and cores in the gravels which have had the hard glazed surface worn off along the ridges. This, he considers, shows that the thick delft-like crust had been formed on the flints and in part worn away before they were included in the gravels, and that therefore the worked flints are older than the formation in which they are found.¹

Our experience is, and it appears to have been that of the Field Club committee, that the flints with abraded crust occur chiefly in the upper layers, and for the most part in the disturbed surface portion. Lower down the flints are sharper and often unpatinated or only partly patinated. A large number of the flakes got in the aluminium works were quite sharp and unpatinated. The sharpness and patination of the flakes seem indeed to vary considerably, not only with the depth but with the part of the beach examined. In our recent examination we found many sharp flints near the surface of the gravels in a newly-tilled field at the coastguard station on the Curran Point.

Beach-rolling is not a marked feature of the flints. In the surface-layers, and at all depths, some evidence of rolling is found occasionally in a rubbing down of the edges and ridges of flints; but it is not characteristic, and the flakes and cores present a contrast to many of those found amongst the spread gravels of the present beaches at Larne, which are often so much rolled as to be hardly recognisable. This implies that the gravels of at least the more inward parts of the raised beach were not spread and exposed to wave-action for any long period during the deposition of the gravels. The delft-like and white colour of the patination of the flakes in the surface-layers—the patination of the flints in the lower levels being of a cream-colour and less glazed-looking—as well as the much-chipped state of the edges, is, no doubt, a result in part of the constant re-exposure and disturbance of the surface-layers by tillage. At some places, especially towards the point of the Curran (*P*), we found, even in the surface-layer, numbers

¹ Proc. R. I. A., 2nd Ser., vol. ii. (Polite Lit. and Antiq.), p. 437.

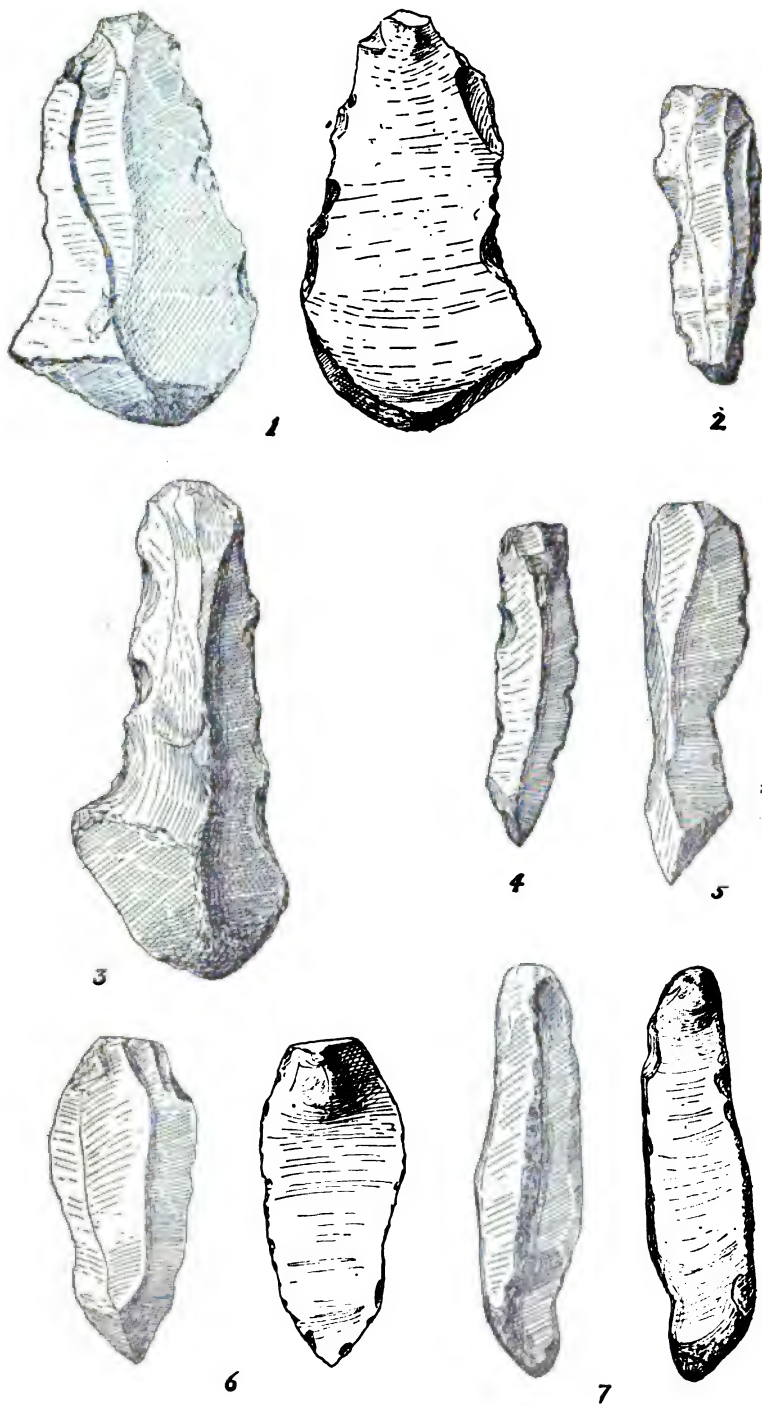


FIG. 5.—Flakes from Larné. $\frac{1}{2}$

of sharp and little patinated flakes. This was a portion of the surface-gravels that had not been disturbed, or possibly the site of comparatively recent flaking.

The patination of a flint is of doubtful value as an indication of antiquity. It depends chiefly on the circumstances of exposure, the nature of the bed, and quality of the flint. The conditions of exposure on a beach appear to be specially favourable to rapid patination. Where flints have remained unexposed in a non-porous deposit, they are often found to be quite fresh; and we have taken naturally broken flints from the Boulder-clay which were translucent, and retained the freshness of fracture and edges, as if only broken yesterday.

It may be mentioned that flints when first taken from a deposit are often dark, and partly translucent, but when they dry out become grey and opaque. Several flakes taken from the aluminium works section have turned grey and opaque in the Museum; in fact, an incipient patination may be said to have begun. The evidence of the unrolled flakes in the lower beds points to the working of the flints having been contemporary with the laying down of the gravels.

The series of flakes from the section in the aluminium works (see Plate VI.), which we will now describe in detail, is perhaps the most instructive on this point.

The disturbed surface layer (1 foot 3 inches) yielded weathered and abraded flakes in the usual abundance, such as fig. 5, Nos. 1 to 5. At the bottom this layer passed into finer gravel (7 inches), in which a considerable number of unweathered and sharp flakes were found, representing a comparatively undisturbed deposit or pocket (fig. 6, Nos. 1, 2). Below this was a layer of coarse stratified gravel (6 inches). In this layer a few coarse weathered flakes occurred, similar to the surface flakes. Next in order came a band of sand (10 inches); in it a few broken flints were found, and, at the bottom of the sand, resting on the next bed, some well-struck flakes and a rude flint "celt" (fig. 6, Nos. 3, 4). The flakes and celt from this sand-band were patinated, but not deeply, and sand-stained a brown colour, which easily distinguished them from the flints from the other beds; the edges were sharp.

At the bottom of the sand-band was a thin layer of rolled pebbles, about 4 inches thick, at the base of which was a thin ochreous deposit from decomposing basalt pebbles. In this ochreous deposit numerous flakes were found quite unweathered and sharp, marked in places with ochre stains (fig. 6, Nos. 5, 6). Below this stony layer came a bed of gravelly clay (1 foot 3 inches), resting directly on the Boulder-clay.

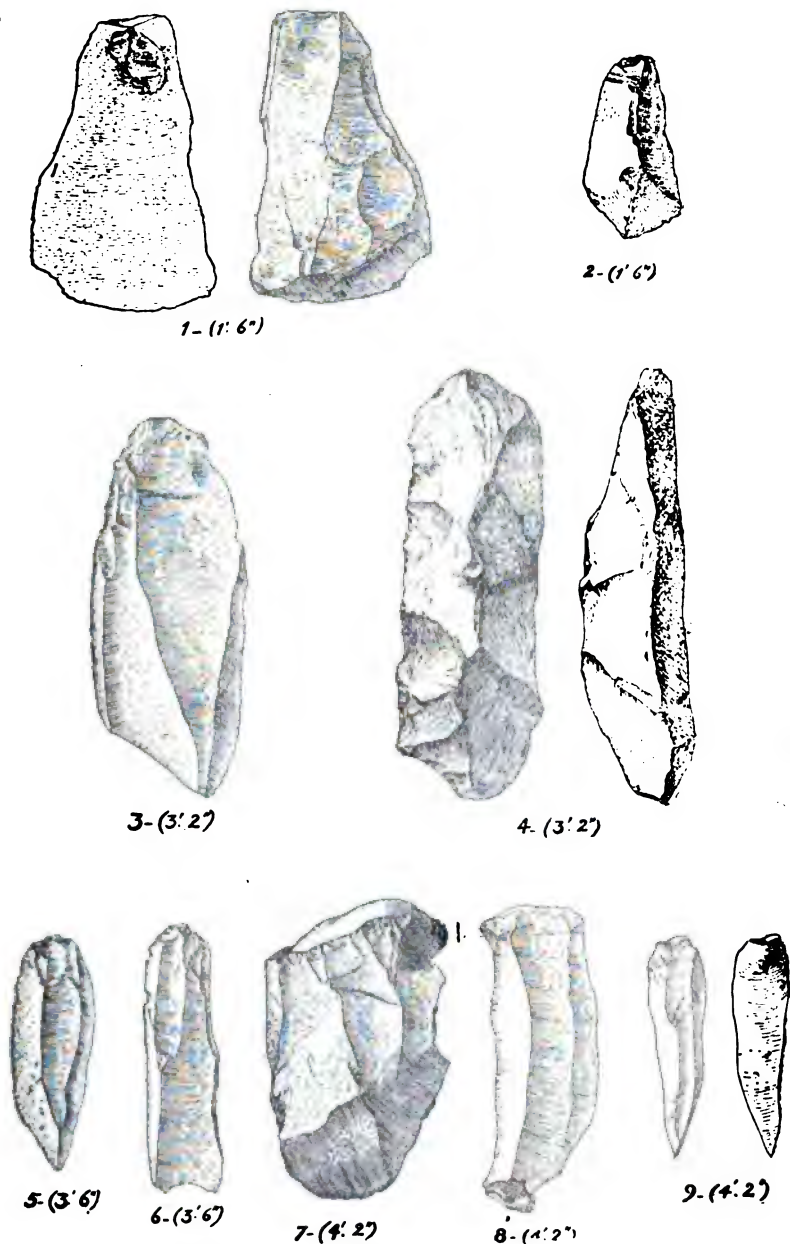


FIG. 6.—Flakes &c., from the section in the Aluminium Works (near Y), Larnie. $\frac{1}{2}$

Throughout this bed, down to the Boulder-clay, flakes were found unweathered and sharp (fig. 6, Nos. 8-9), including a very delicate and well-formed flake (No. 9), also two cores, one of black flint, and the other of translucent yellow flint (No. 7).

In the Boulder-clay which underlay the last bed, several broken fragments of translucent flint were found, but no artificial flakes. The change from the artificial flakes and cores of the lowest bed to the naturally broken flints of the Boulder-clay was most instructive.

The condition of the flints in the gravelly clay below the sand indicates that here, on the slope of the bank of Boulder-clay, they escaped the beach action, and lay as they fell from the hands of the flint-workers, being covered up gradually as the land sank, till at length a sandy shore overspread the bed on which, as the land sank further, the gravels of the upper beds were thinly spread.

The only place, during our examination of the gravels last Easter, at which a systematic collection of flakes was made, was the ballast pit *Z* (Plate VII.). There the gravels stood 10 to 12 feet thick on the Boulder-clay, passing into sand at the bottom. A piece 5 ft. by 4 ft. was taken down, care being taken to guard against flakes falling from higher levels when collecting. The disturbed surface-layers, here as at the other points, yielded great quantities of chipped and abraded flakes, not counted (fig. 7, Nos. 1 and 2). After 1 ft. 6 in. flakes became scarce; from 2 ft. to 4 ft. only seven flakes were got; from 4 ft. to 6 ft. twenty-two flakes and cores; from 6 ft. to 8 ft., thirty-eight flakes and cores; from 8 ft. to 9 ft., twenty-two flakes and cores. After a depth of 9 feet, flakes and cores became very scarce; between 9 and 10 feet only six were found. A selection of these is illustrated (fig. 7).

Form of the Flakes.

A noticeable feature of the Larne flakes is the number of examples in which the bulb of percussion is at the narrow end of the flake; the opposite end being broad and thick (fig. 5, No. 1). Moreover, the broad, thick end often shows a portion of the outer crust of the nodule from which the flake was struck. Flakes of this class are so numerous that they are regarded by some collectors as characteristic of the Larne gravels, as also of the raised beach sites around Belfast Lough. There can be no doubt that these are the outer waste flakes, struck off in the process of reducing a block of flint to the proper truncated cone shape, from which the desired flakes could then be struck. A core, with replaced flakes, in the National Museum, prepared by the Brandon flint-workers to illustrate the process of flaking, shows this feature

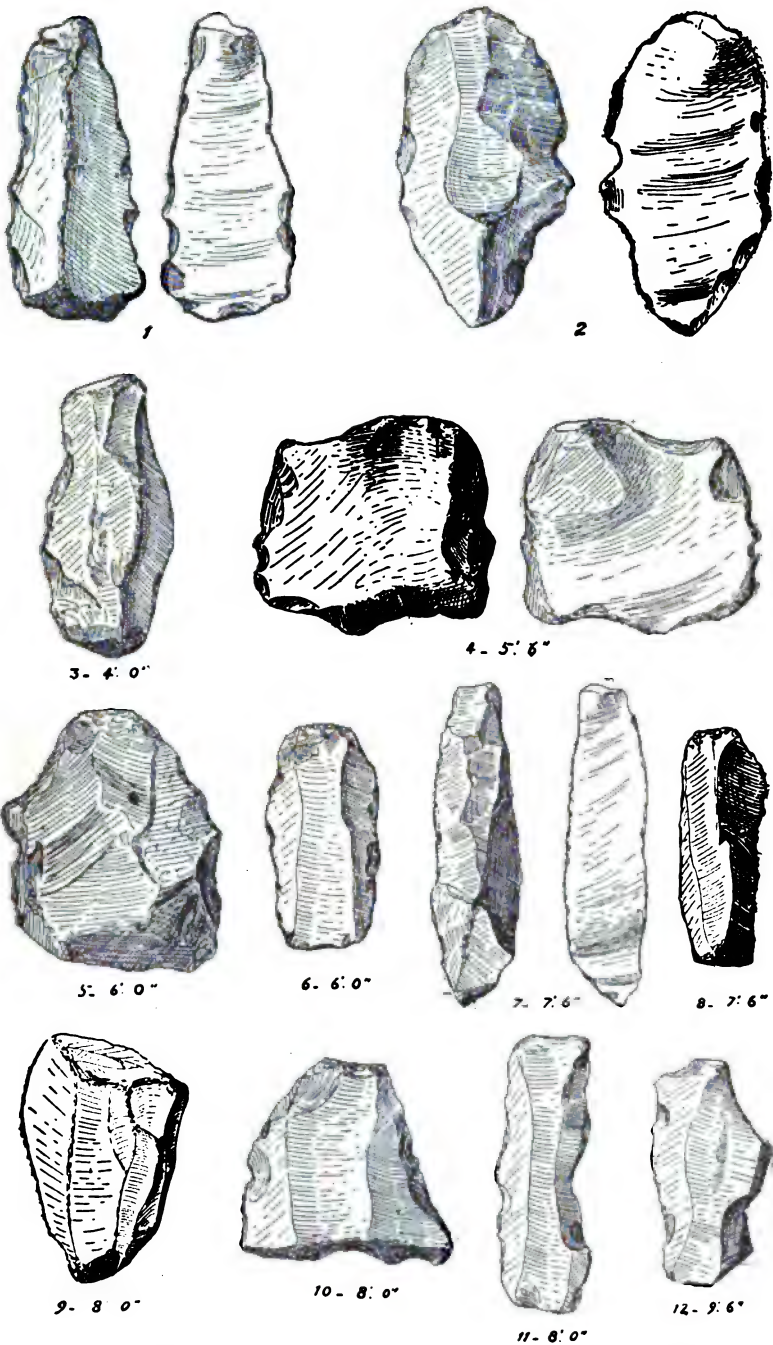


FIG. 7. —Flakes from various depths at the Harbour Ballast Pit, Larne.
(See Plate VII). 2

particularly well. In our figures, the back of the flakes only is shown as a rule; but in all cases the bulb of percussion is placed uppermost. Where the depth from which the flake or core was taken is not stated on the figure, it is to be understood that it was picked up among the loose flints of the gravels.

The section in the aluminium works at Larne shows, however, that from an early period in the history of the beach the art of making delicate and skilfully shaped flakes was known. The delicate flakes necessarily suffered most in the gravels, and they have been generally overlooked by collectors, who have sought the large, coarse flakes, which they have come to look on as typical of the site. But, in addition to specimens collected by us, Mr. Coffey has obtained from the workmen in the aluminium works, which embrace the bank of Boulder-clay where the action of the beach was least active, large numbers of slender and well-formed flakes. Typical leaf-shaped flakes are, however, comparatively rare; an example, picked up in the aluminium works, is shown (fig. 5, No. 6).

Larne not a Dwelling-Site.

The Larne gravels were not a dwelling-site. The general evidence leads to the conclusion that they were a quarry-shop, or roughing-out place, where the flint was sought and flaked to carry away. This appears to be the only adequate explanation of the enormous number of cores and waste flakes found there. Many of the cores are evidently rejects, cast aside after a few trial flakes were struck off. Thus in fig. 4, No. 4, we see that, owing to a defect in the quality of the flint at the centre of the core, the flakes broke off short, and the piece was, no doubt, thrown away as useless.

The absence at Larne of scrapers and flakes with secondary dressing is thus sufficiently accounted for. The site was not a settlement, but was resorted to as a quarry for procuring flakes, which were then carried away to be used for various purposes, and possibly as blanks for further specialization.

The Larne Celt.

The rude flint celt referred to (fig. 6, No. 4) was found at the bottom of the sand-layer. It was also in the undisturbed gravels that the rude celt, mentioned in the Field Club report, was found in the railway section, at a depth of 11 feet from the surface. This celt has been figured by Mr. W. Gray, M.R.I.A.¹ It is of the same class as

¹ Proc. B. N. F. C. (2), vol. iii., p. 614.

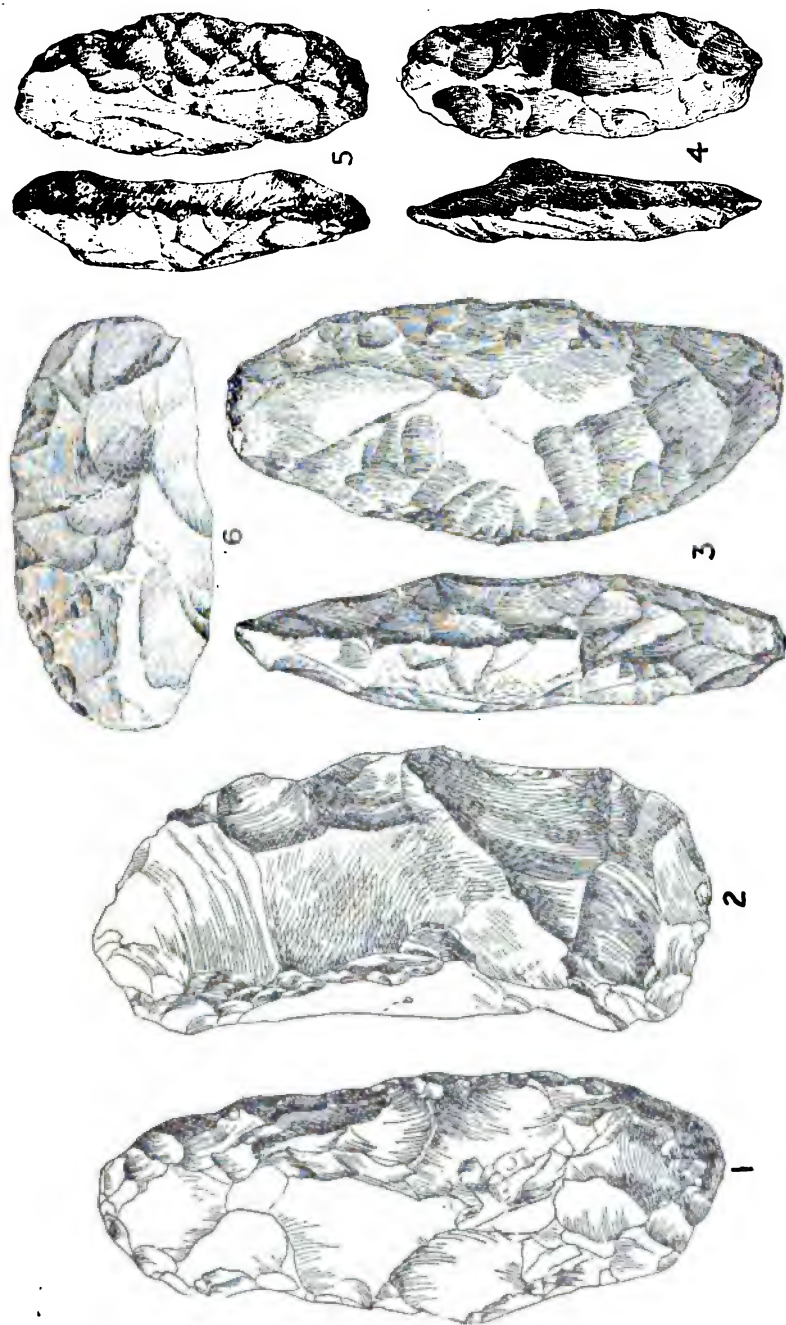


FIG. 8.—“Larnie type Celts.” †

that from the aluminium works. A third example of these rude celts was found by Mr. R. Young, C.E., of Belfast (fig. 8, No. 3). He informed Mr. Coffey that it was found at a considerable depth in the gravels. It is now in the museum of the Belfast Natural History and Philosophical Society.

These rude celts, though commonly known as "Larne type," are not confined to Larne. They have been found in considerable numbers in the denuded gravels of the raised beach at other stations. Mr. Gray has figured examples from Island Magee (the opposite shore of Larne Lough), and from Holywood, Cultra, and Ballyholme, on the County Down side of Belfast Lough. Mr. Knowles has figured an example from Kilroot (Antrim side), and one from Holywood. Another example from Kilroot is in the National Museum, given by Mr. W. H. Patterson, M.R.I.A. One Mr. Coffey picked up on the beach at Portstewart, County Londonderry, is shown, fig. 8, No. 5. Pieces more or less of this form have been found in the Bann valley. They have, however, been found in greater numbers at Larne, and along the beach at Island Magee on the opposite side of the Lough, than elsewhere. Mr. Knowles has collected over 100 specimens, chiefly at Larne and Island Magee. The late Rev. G. R. Buick, M.R.I.A., also collected a considerable number at the same sites.

The most distinguishing feature of this type is the absence of a cutting edge. They are more or less pointed at both ends, but no consistent attempt appears to have been made either to bring the ends to a point or to form a cutting edge. They resemble, in many respects, the roughly-chipped celts figured by Sir John Evans in chapter iv. of his "Stone Implements of Great Britain," such as figs. 12-16, and fig. 25, also the ruder forms from the flint celt factories at Cissbury, regarded as wasters, or unmarketable pieces.¹ Mr. Knowles describes them as mostly triangular in section;² but many in his collection are of a more or less oval section, that is, rounded on both faces (fig. 8, No. 1, found on the beach at Island Magee); and some are simply irregular blocks, such as fig. 8, No. 2, which was found, at a depth of five feet, in the gravels near station Z, at Larne. Some of the specimens are small, such as fig. 8, Nos. 4 and 6, from Larne, now in the Knowles collection.

The question arises, Are these implements of a special form, as they have hitherto been regarded, or merely unfinished pieces, roughed-out blanks and wasters? The waste and unfinished pieces from the

¹ Evans, 2nd ed., p. 89.

² Journ. R.S.A.I., vol. xxiii. (1893), p. 141.

site of a celt factory recently discovered by Mr. Knowles at Cushendall, County Antrim, are instructive on this point. The stone used was chiefly basalt. The process of manufacture has been fully described by Mr. Knowles.¹ The final form aimed at was the sub-triangular celt, the last stage of the chipping being carefully done, and serving to trim the piece to the required thickness and shape, ready for grinding and polishing. But in the early stages of the process the final form is not directly attempted; in other words, the piece is not prematurely specialised. At first it is freely chipped into an oval form, pointed at both ends. The reason for this will be easily understood when the nature of the work is considered. The block of stone has first to be thinned down; for that purpose it is flaked by striking it along the margin of the upper face, flakes being thus detached from the under face, the blow being directed downwards and inwards; the fracture which detaches the flake reaches in a considerable way on the under surface. The block is then turned, and the process repeated on the other face. In this manner the faces are thinned down and the transverse section reduced to a flat oval. At this stage the final shaping is begun. The advantage of leaving the ends pointed is now seen. The excess left at the ends allows the celt to be thinned down lengthways at the butt and the cutting end while bringing them to shape, in the same manner as the body of the celt was thinned transversely by flaking from the sides. The finished forms were rarely found at the quarry site on Tievebullagh Mountain where the stone was got, but only the roughed-out oval pieces, many of them discarded pieces; the final chipping was apparently done at the valley sites, where the more finished forms were found. The section of the rude pieces is often somewhat triangular, probably intentionally in the case of adze-celt forms, but also a result of the fact that the faces were flaked alternately, and that the flaking has gone deeper on one face than on the other.

It might be expected that we should find among these Larne rejects, pieces which have been broken across in the process of manufacture. We do occasionally find these roughed-out "Larne celts" broken across. But as few sections of the gravels have been dug out, and the majority of the specimens have been collected from the distributed gravels of the Larne and Island Magee beaches, this point has not been satisfactorily investigated. It may be pointed out, however, that the Larne celt is stout in body, and not likely

¹ Journal of the Anthropological Institute, vol. xxxiii., p. 360. 1903.

readily to snap, even in chipping. At the celt manufactory near Cushendall, already referred to, this feature of accidental fracture in course of manufacture was not noticeable on the roughed-out pieces, the tendency to fracture appearing when the piece was thinned down. The broken pieces collected were cutting ends, or butt ends, of developed celt form; in one instance the two halves of a partly-finished celt being found side by side.

Looking at the so-called Larne celts from this point of view, we can see that these rude pieces correspond closely to the Cushendall quarry forms. They are, as a rule, more slender, but this is accounted for by the difference of the material and of the form desired. Flint celts of good form are rare in Ireland, and are very rarely polished and finished in the typical manner.

The Larne type must have been a stage in the manufacture of such implements. These chisel forms have been found in the fields at Island Magee and other places along the coast. The final chipping and dressing or grinding of the edge would not be done at the quarry site; and we can readily understand that only the roughed-out pieces, or pieces discarded for some defect in working, would be found in the Larne gravels.

It has been suggested that at least some of the Larne celts may have been implements the purpose of which cannot now be determined. When, however, we consider the vast accumulation of waste flakes and cores, the absence of any indication that the gravels were used as a dwelling-site—on the contrary, from the very nature of the deposit, strong presumption that they were not—this view will, I think, recede from the argument. The so-called celts show us that the industry at Larne was not confined to flaking. If the worked pieces are not for the most part wasters, where, we may ask, is the waste of these pieces?

The Larne celts, though we cannot accept them as a primitive form of stone implement, throw some light on the age of the gravels. As already stated, flint celts of good form and finish are rare in Ireland, that is, the sub-triangular polished celt, which may be taken as representing an advanced stage of Neolithic culture. But, as mentioned, the rough chisel type, narrow, with somewhat straight sides, is fairly common. In some the edge is of the kitchen-midden type: others, which seem to be more advanced, have the edge ground,¹ as will be seen in fig. 10. Here Nos. 1-3 (found, respectively, on

¹ For English examples, see Evans, *op. cit.*, figs. 12, 13, 15.

Island Magee, in Co. Down, and in the Bann valley) have been brought to an edge at the lower end by flaking. In these, as also in some of the partly ground specimens, the somewhat curved sides recall the Larne pieces, and it is evident they must have passed through the stage represented by the rougher types of the gravels.

The Larne celts would thus seem to be the roughed-out stage or blanks for this class of implement. Many of them would require little more than the striking-off of two facets from one of the ends, one from each face, to convert them into serviceable chisels of the kitchen-midden class, the intersection of the facets producing the cutting edge, while the grinding down of one of the ends would produce an edge of the second class. The edge would not, of course, be put on at the quarry site, and we should not expect to find finished specimens in the gravels. Moreover, the best pieces would have been carried away, so that the greater number of those found in the gravels are likely to have been rejects. The process of roughing-out the blanks was evidently rapid, and pieces which developed defects in the working, a hump on one of the faces, or an irregular section, would be thrown aside.

The Kitchen-midden Axe.

The kitchen-midden axe, or chisel, is typologically the beginning of the celt series. Speaking of the chipped or rough-hewn celts generally, Sir John Evans says:—"It seems almost demonstrable that some at least of these unpolished celts must be among the earliest of the Neolithic implements of this country" [Britain]. The art of chipping stone into shape must, he continues, "in all probability have preceded that of grinding or polishing its edges." But he is careful to add, "We have as yet, in Britain, no means for assigning with certainty any of these roughly chipped forms to an antiquity more remote than that of the carefully finished celts with their edges sharpened by grinding, though in all probability some of them must date back to a far remoter period."¹

Whether the kitchen-midden forms can be referred in Britain and Ireland to as early a period as the Danish *kjökken-möddings*, there is not evidence to say; but there is some evidence that the kitchen-midden type belongs to an early stage of the Neolithic period in Ireland. About 1886 the removal of sand from the south side of the street called Spring-hill, at Portrush, County Antrim, to make room

¹ *Op. cit.*, p. 85.

for new buildings, disclosed an old surface, resting almost on the solid rock. In this old surface a number of small flint axes were found with characteristic kitchen-midden edges. Mr. Knowles, who has figured four of them (there seem to have been several more of them in the find), describes them as small axes, wedge-shaped, the edges being formed by a single large flake having been removed from each side.¹ One of these is shown (fig. 9). A few of this class of kitchen-

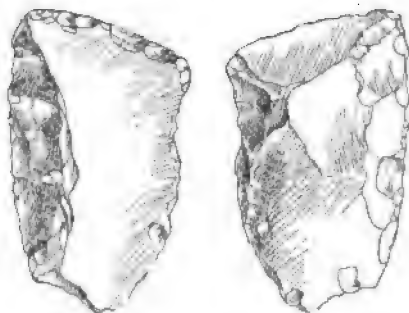


FIG. 9.—Kitchen-midden axe from Portrush. $\frac{1}{2}$

midden axe have been found at Larne. Rev. W. Adams, of Antrim, has two in his collection, one of which closely resembles that figured above.

The circumstances of this find, and the absence of any objects of a definitely late character, seem to indicate an early period.

The Chisel Type.

The narrow flint axes, or chisels, ground only at the edge, come next in order of development in the celt series (fig. 10, Nos. 4–6, from Counties Antrim and Londonderry). When we consider the series as a whole—the further stages of rubbing down of the

¹ W. J. Knowles: "Report on Prehistoric Remains from the Sandhills of the Coast of Ireland," Proc. R.I.A., 3rd S., vol. i. (1889–91), p. 177. Mr. Knowles states that he has seen indications of such a process of manufacture among the objects found at Whitepark Bay. He here refers to nondescript or chopper-like pieces of flint, in which the intersection of two facets forms an edge, which may or may not have been intentional in particular instances. No specimens of the kitchen-midden form of axe have been found at Whitepark Bay.

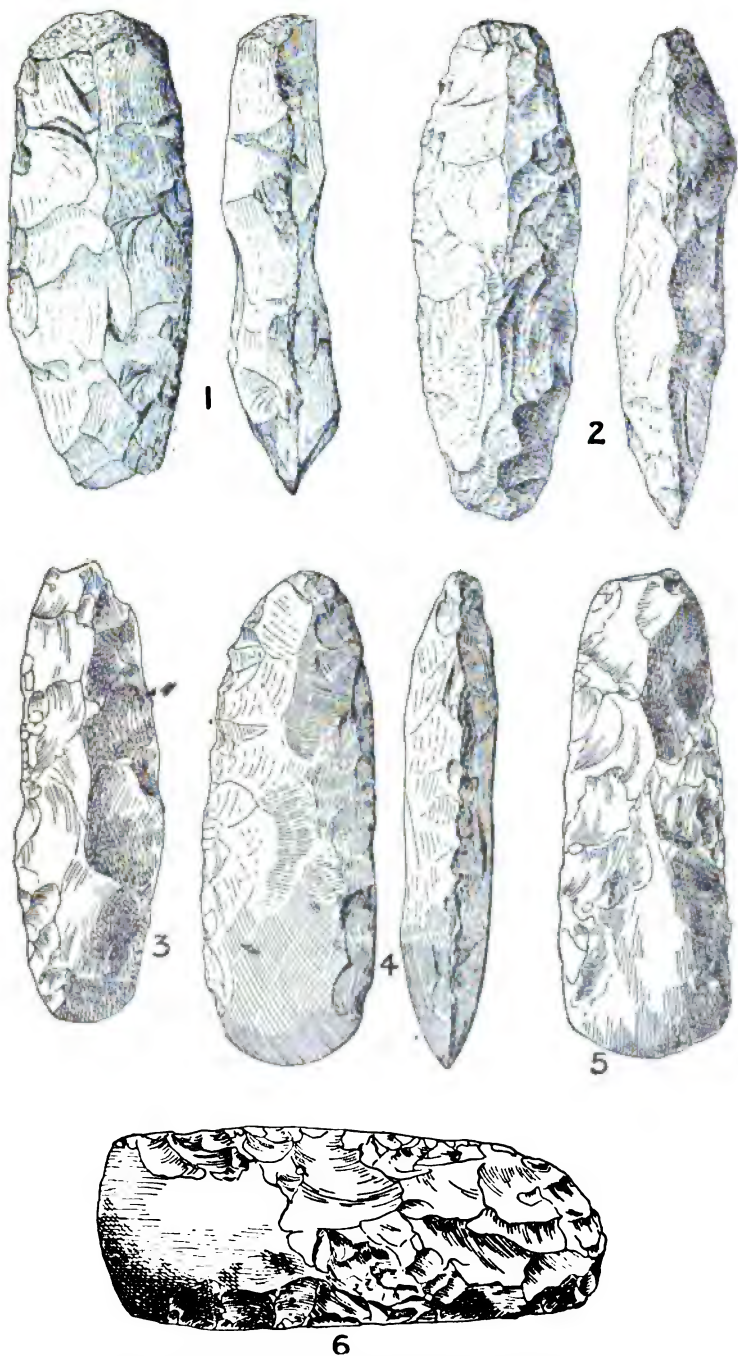


FIG. 10.—Kitchen-midden and partly ground Axes. $\frac{1}{2}$

sides left jagged in the process of chipping, leading to the type of polished celt of flat-oval section with flatted sides—a form conditioned by chipping—and compare with the latter the forms of the celts produced by a different method of manufacture—that of battering or pecking the stone into shape—a process which does not appear to have been employed till an advanced stage of Neolithic culture had been reached, and which necessarily eliminates the flatted sides, producing a round-bodied celt, contracting towards the cutting edge, and pointed at the butt-end—we cannot reasonably doubt that the series representing development represents also progress in time, and that these roughly chipped celts, ground only at the cutting edge, although they may, in some cases, have been made in later times, are, as a type, to be placed early in the Neolithic period of Ireland rather than towards the middle or end of that period.

If, then, the Larne celts are to be regarded as the roughed-out pieces, or blanks, from which the celts of the kitchen-midden type and the narrow forms with ground edges only were formed, the laying down of the Larne gravels cannot, as far as this evidence can be relied on, be brought down to a later period than the earlier stages of Neolithic times.

THE SANDHILL SITES.

We may now approach the problem on a different and more direct line of evidence. In the sandhills of the north coast of Ireland several occupation sites of Neolithic man have been discovered. The most notable of these are at Dundrum Bay, County Down, Whitepark Bay, County Antrim, and the mouth of the River Bann, near Portstewart, County Londonderry. The sandhills overlies the raised beach; and in the old surfaces laid bare, in the wind-blown hollows among the sandhills, worked flints and pottery are found in great abundance.

The industry at these sites is quite different in character from that at the Larne beach. Long flakes of the Larne type are not found in the sandhills; indeed, flakes of any considerable length are rare at those sites. Roughed-out pieces, such as the Larne celts and the kitchen-midden and narrow-axe types, are also wanting. Yet the working of flint was carried on extensively in the sandhills. Cores and flakes are abundant, but the nodules worked were, as a rule, small; and the flakes for the most part are short and broad, or irregular in shape. Scrapers occur in great numbers, and this was one of the chief implements manufactured. At Dundrum Bay and Portstewart well-

wrought arrow-heads and concave scrapers, or hollow saws, as they are thought to have been by some authorities, are numerous, besides other forms of implements of an advanced Stone Age industry. At all the sites mentioned, polished axes of fully developed form have been found. At Whitepark Bay very few arrow-heads have been found, and concave scrapers are exceptionally rare. The ordinary scraper in its various forms is, however, common, and has been collected by hundreds. The pottery is often decorated, and is in this respect as advanced as at the other sites. It is probable that some of it is Bronze Age. The sandhill sites were occupied, whether continuously or occasionally, from Neolithic times, through the Bronze Age, and into the Iron and Christian periods.¹

Occurrence of "Larne" Types.

But while the industry in the sandhills is consistent, the finds at Portrush being exceptional and possibly older, we find outside the sandhills along the pebbly parts of the beach at Whitepark Bay, and along the pebbly beach between the Bann sandhills and the town of Portstewart, where we may see the raised beach underlying the newer accumulation of the sandhills, occasional flint flakes, which class themselves by aspect rather with the Larne flakes than the sandhill flakes. They are often much rolled, and it requires an expert eye to recognise the original flake character of the piece. Mr. Knowles has noticed the difference in character of these flakes, and he also regards them as older than the sandhill flakes, classing them with the flakes of the raised beach, as distinguished from the sandhill industry. Further, he lays stress on the fact that re-worked cores have been found in the sandhills, the earlier working belonging, he believes, to the older series. Speaking of Whitepark Bay, he says:—"Flakes and cores of an older series are found lying along the shore of the bay. These are greatly weathered, and are easily known by their reddish-brown crust. That they were old and crusted when the Neolithic flint-workers occupied the sandhills is evidenced by the numbers which have been re-worked by these people. In many flakes we will find the old weathered surface of the older core on one side, and the fresh fracture made by the later people on the other side."²

¹ Moulds for bronze weapons have been found at one of the hut sites at Whitepark Bay (now in the collection of Rev. W. Adams, Antrim).

² Proc. R.I.A., 3rd Ser., vol. i., p. 176.

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Mr. Coffey has often discussed this point with Mr. Knowles, and is inclined to agree with him as to the older character of the flakes found along the shore of Whitepark Bay. They are generally of the long finger-like form, such as is found in the raised beach at Larne, rather than the broad and often nondescript class of flake common in the sandhills. A good specimen is shown in fig. 11, No. 1. It was found by Mr. Coffey in the stony part of the beach at Whitepark

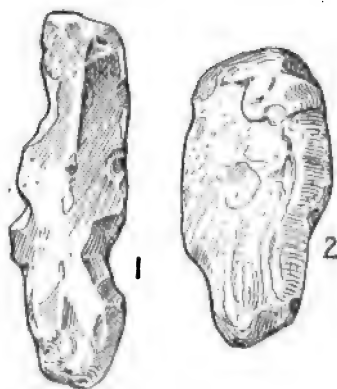


FIG. 11.—Rolled flakes from Whitepark Bay. $\frac{1}{2}$

Bay, within the tide-wash. Evidently, it had only recently been exposed, and is little rolled. The chips at the side were fresh, and were probably caused by the gale which had not quite blown itself out. This rather implies that this flake had come out of the raised beach itself, and, therefore, represents the older formation underlying the sandhills. A much-rolled flake from the same beach is shown (fig. 11, No. 2).

The Larne-type celt (fig. 8, No. 5) was found by Mr. Coffey in a similar position on the exposed beach at Portstewart, between the town and the sandhills. It also is to be referred to the raised beach.

The large pear-shaped pieces of flint collected by Mr. Knowles along the shores at Larne, Island Magee, and Kilroot, and regarded by him as artificial, are not discussed in this paper. None of them have been found in the gravels, but only along the shore-line, and they do not affect the evidence examined in this section of the present paper.

We may also mention a tooth of the Mammoth found in the

gravels by the late Dr. Moran, and described by him in Proc. Belfast Nat. Hist. and Phil. Society for 1888-9, p. 35. Also a bone in Mr. Knowles' collection, identified as *Elephas*, and found in the railway section. No significance can be attached to these remains as regards the age of the gravels. They must be regarded as derived from an older formation, as in the case of the Mammoth tooth found at Ballyruder, in the Larne locality, and now in the Grainger collection, Belfast.

The figures which illustrate this section of the present paper are drawn from specimens in the National Museum, with the exception of those mentioned as belonging to Mr. Knowles, which have been drawn by Miss M. Knowles.

CORRELATION OF CHANGES OF LEVEL WITH HUMAN PERIODS.

Having dealt thus far with the geological history of the district and the character and relative age of its Neolithic remains, we may now return to our original position, and point out the bearing of these considerations on the question of the Brouther gold ornaments, and on the general history of the district in post-Glacial times.

The gold ornaments found at Brouther were ploughed out of stiff clay on the shelf or raised beach which we have discussed, at a point where the height above ordinary high water is 4 feet. We have seen that the top of the marine series at Larne has been elevated to a height of no less than 22 feet above high water, and also that the amount of elevation increases northward in Ireland. It follows that the emergence of Brouther from the waters of Lough Foyle took place almost at the close of the movement of elevation. The point to be, if possible, decided was, at what period did the emergence of Brouther take place?

Evidence from Larne.

The Larne raised beach proves that practically the whole movement of depression, as represented by the series there, took place during Neolithic times. The lowest beds, up to the top of the estuarine clay, have so far furnished no evidence. But the whole of the overlying 19 feet of gravels yield flints of human workmanship, showing that man was on the ground during the submergence that allowed of the continued laying down of this mass of material in

shallow water or between tides. Further, the immense abundance of flint flakes in the surface layers renders it probable that Neolithic man persisted after that movement of elevation had set in which made the top of the gravels a land surface. But Larne does not show us for how long Neolithic man remained in possession after the elevation began, except that the great abundance of the surface flakes postulates a considerable period.

Evidence from Whitepark Bay.

At Whitepark Bay, the "black layers," or old land surfaces, occur at various levels among the dunes. Blown sand, an aerial deposit, lies not only above the old surfaces, but below them. We thus get the following order of events:—

(1) Elevation of the land till the ground on which the dunes rest rose beyond the reach of the waves.

(2) Accumulation of blown sand on this old surface.

(3) Formation of sward on top of the blown sand, and settlement of Neolithic man thereon.

(4) Accumulation of sand on this surface.

Clearly, therefore, not only the surfaces on which the settlements are situated, but the older surface at the base of the underlying blown sand, must have been above the sea in not later than Neolithic times. If these surfaces below the blown sand were found to correspond in elevation with Broighter, it would necessarily follow that Broighter was elevated above the sea in times not later than Neolithic, instead of between the fourth and sixth centuries of the Christian Era, as contended at the trial. To test this point we visited Whitepark Bay, and levels were run from high-water mark to Neolithic sites at four points, and the nature of the deposits underlying and overlying the black layers carefully noted. As regards levels, we found that the Neolithic sites vary from 15 feet to 33 feet above high-water mark.

In comparing these levels with that of the land at Broighter, one important point must not be lost sight of. Broighter is situated on a land-locked bay, which on that side is extremely shallow. Hence, large waves are not met with on the Broighter coast, and the land proper, *i.e.* land on which terrestrial vegetation can grow, begins immediately above high-water mark.

Whitepark Bay and Portstewart, on the contrary, are open to the North Atlantic, and at both localities a well-marked storm-beach fringes the sea. The elevation of the storm-beach at Whitepark Bay

was measured and found to extend to 5 feet above high-water mark. Below this level the foreshore is exposed to alterations at every gale. At this level the land proper commences, and it is only above this level that blown sand forms, vegetation begins, and man could settle.

We must, therefore, deduct from the levels at Whitepark Bay 5 feet if we wish to compare them with the levels at Broughter. In other words, the high-water mark at Whitepark Bay is, for all practical purposes, 5 feet higher than at Broughter.

The lowest points at which Neolithic man was found at Whitepark Bay were 13 feet at "M" on Mr. Coffey's map of sites, in Knowles' Fourth Report,¹ and 19 feet 6 inches at "f" (east end of same map). Deducting 5 feet for storm-beach, and also the actual amount of blown sand observed below the black layer at these points, we find that the old land surface on which the sand-dunes collected, before Neolithic man settled there, is at present 6 to 8 feet above the storm-beach, or practical high-water mark. This is the level which must be compared with Broughter, and it is important to note that its age as a land surface is clearly determined to be pre-Neolithic, or Neolithic.

Thus Whitepark Bay reduces the discrepancy between the Neolithic land-level and that of Broughter, but still leaves a margin which we were anxious to eliminate, as it could not yet be positively asserted that the *whole* of the elevation took place prior to the period suggested. It was just conceivable that a pause in the uplifting might have occurred, leaving Whitepark just above tide-level, and Broughter just below. If this pause were long enough, Whitepark might have been a Neolithic land surface, while Broughter remained tidal until, say, Roman times.

Evidence from Portstewart.

We, therefore, returned to the problem, and selected the neighbourhood of Portstewart for further measurements and observations. Here extensive sand-dunes rise between the River Bann and the ocean. In deep wind-excavated hollows in these dunes old surfaces with Neolithic remains, similar to those at Whitepark Bay, are numerous. In another hollow a fine storm-beach is exposed (Plate IX.), consisting of well-marked ridges of large pebbles, and separated from the present storm-beach by 150 yards of sand-dunes. A line of levels was run along a line, starting from high-water mark on the sandy shore,

¹ Proc. R.I.A., 3rd Ser., vol. vi., p. 333.

passing across the old storm-beach, through two of the Neolithic sites, and back to high-water mark. This section, omitting the portion which ran from the one Neolithic site to the other over the summit of a 90-foot sand-dune, is shown, fig. 12. The results show :—

- (1) Crest of old storm-beach 6 feet above present high water.
- (2) The Neolithic sites lie well behind this line. The levels of the black layer at two sites, *A* and *B*, measure respectively 11 feet and 15 feet 8 inches.

At site *A*, deducting 5 feet for storm-level and 4 feet for blown sand at present exposed below the old surface, we find the old Neolithic or pre-Neolithic surface on which the blown sand accumulated to be not more than 2 feet above present storm-level of high water.

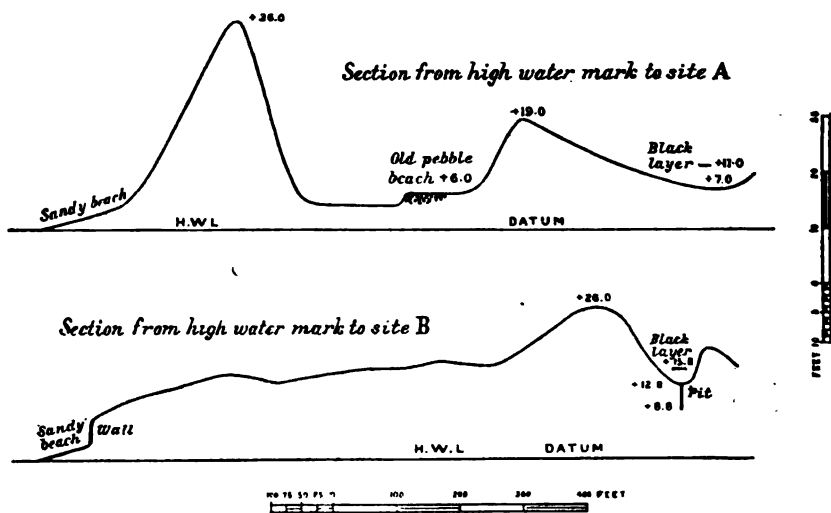


FIG. 12.—Horizontal Sections of the Portstewart Sand-dunes.

The same process applied at site *B* reduced the old surface to 3 feet 8 inches above present storm high water thus :—

| | ft. | in. |
|---|-------|--------------|
| Level of black layer, | 15 | 8 above H.W. |
| Less blown sand observed below black layer, | 7 | 0 |
| Less storm level, | 5 | 0 |
| | <hr/> | |
| | 3 | 8 |

Furthermore, similar observations applied to an adjoining point gave a level for the base of what appeared to be blown sand of between 1 and 2 feet *below* high water. The fact that standing water had altered the appearance of the sand rendered it difficult to decide with certainty as to whether the blown sand continued downward to this level; but we have little doubt that the observation was correct. If

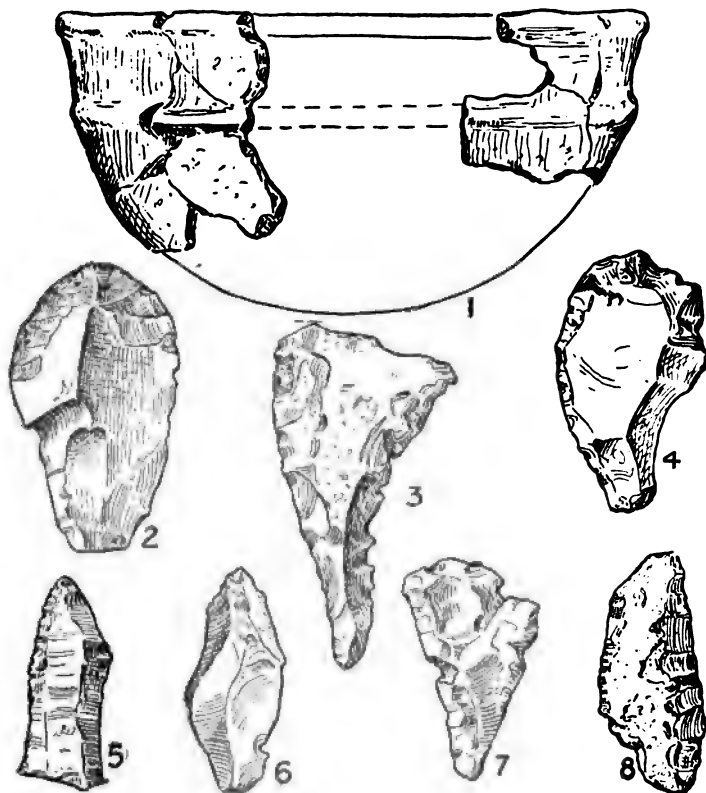


FIG. 13.—Neolithic Remains from Portstewart Sand-dunes, obtained from Pit B (fig. 12, and Plate VIII.). No. 1, $\frac{1}{4}$; the rest, $\frac{1}{2}$.

so, it supplies additional evidence of the final slight subsidence which has been already referred to as being the latest movement of the land traceable in our area.

The site *B* is illustrated in Plate VIII. Two old surface-layers

are seen in the photograph. In some parts of the pit these surfaces coalesce, and there is probably not much difference in date between them. It was from the upper of these old surfaces that Mr. Coffey dug out, in 1897, the fragments of a vessel of pottery, with round bottom, and the scraper, borer, and other objects of flint shown in fig. 13. They lay together within a space of $2\frac{1}{2}$ feet square. A fragment of the cutting end of a highly-polished stone celt was found loose in the pit. These objects are characteristically Neolithic, and we are certainly dealing with a Neolithic surface.

The above observations at Portstewart, which lies only 13 miles E.N.E. of Brougher, prove conclusively that the ground on which the gold ornaments were found has been a land surface, with an elevation at least as great as at present, since Neolithic times; the greater part of the movement of depression, and the whole of the movement of elevation, which formed the post-Glacial raised beach of the north-east of Ireland, having been accomplished during Neolithic times.

CONCLUSION.

Referring once more to the diagram constructed for Larne (Plate IV., fig. 2), we can now get a step further. The Larne beach deposits show that Neolithic man was in existence from almost the commencement of the deposition of that series, until after its conclusion—from the point *P*, approximately, to some point beyond *N*. The further evidence of Whitepark Bay and Portstewart carries on the Neolithic period to *Y*, the conclusion of the period of elevation. Applying this to the Belfast diagram (Plate IV., fig. 1), we have the Neolithic period extending from somewhere near the top of the lower estuarine clay (or earlier), through the upper estuarine clay, to the beach deposit of yellow sand which overlies it, or possibly later.

The Mersey district in England, and the Forth and Tay districts in Scotland, present a series of deposits showing oscillations corresponding closely with those of the North of Ireland. As regards age, the evidence on the English side of the Irish Sea appears still to be slight; but the occurrence of Roman remains in the silts which represent the final small depression, throw the main movements of the series back to a remote period, and there is nothing to contradict the assumption that these movements were Neolithic, as in Ireland. In Scotland the evidence at present available is somewhat contradictory. The occurrence of early kitchen-middens with marine shells along the *edge* of

the Carse, and of implements of deer's horn, and canoes containing stone celts, embedded in the Carse clays, points to submergence of the Carse during early human times, which would correspond with the Irish evidence. Munro's interpretation¹ of the deposits in the Mac Arthur cave at Oban, also, involves a land-level during Neolithic times 30 feet lower than at present. Jamieson's observation of worked flints and shell mounds on the top of the 25-foot beach would show that elevation was at least well begun before the end of the Stone Age; and the Joppa pagan cemetery (*ante*, p. 161) clearly indicates that the Bronze Age found the movement of elevation *at least* nearly completed. The peat deposits on the beach, up to 14 feet in thickness, to which Jamieson draws attention, also attest a considerable age for the uplift; while his statement regarding the occurrence of artificially chipped flints, which are not rolled, on the raised beach north and south of the mouth of the Ythan, "often in positions a very few feet above high-water mark," suggests a parallelism with our observations at Portstewart, and the conclusion that the movement of elevation was completed during the Stone Age—though the author escapes this conclusion by assigning the phenomenon to the survival of the use of stone weapons into recent times in that district. The evidence in Ireland, we may remark in passing, does not admit of this interpretation. Speaking on this question in general, it may be mentioned that the earliest forms of metal celts (copper) are found in the Counties of Antrim and Londonderry equally with the more southern counties; and there is consequently no reason to infer that the spread of metal in the north of Ireland was relatively much later than in other parts of Ireland. As regards the sandhill sites, the mouth of the Bann shows an advanced Stone Age; and as that river must have been always an important site for settlement, owing to its importance as a salmon river and accessibility to Lough Neagh, it must have been one of the earliest localities for metal in the north of Ireland.

On the other hand, we have to account for the various records of iron and other late objects found in the Carse clays, which would indicate a much later date for the movement of upheaval. But Munro's investigations of this question, already quoted, leave it very doubtful if any geological significance attaches to the occurrence of these objects.

Some observers, again, have concluded that only the older part of the beach and of the emergence is Neolithic, and that by the time

¹ *Loc. cit.*, p. 270.

the uplift was completed, Bronze Age man held possession of the land. But as the assigning of a later date to the beaches as land surfaces is usually founded on negative evidence—the apparent absence on or in them of traces of earlier periods—we find no testimony that effectually defeats our positive evidence of a Neolithic age for the whole movement of emergence.

Over an area, then, including northern Ireland, the southern half of Scotland, and northern England, the land-oscillations during post-Glacial times appear to have been practically identical. Outside of this area, to the southward, the evidence points to a high land-level in early post-Glacial times, followed by submergence, as in the area just defined; but the sharp Neolithic uplift, which formed the “25-foot beach” in the area mentioned, appears to die out rapidly northward and southward. To the southward, the evidence points to a continuous or intermittent submergence since early post-Glacial times, the land having at no time been appreciably lower than at present. There is as yet but little evidence available wherewith to affix dates to the phases of this submergence; but at Southampton it appears to be satisfactorily established that the high post-Glacial land surface endured until Neolithic times (*ante*, p. 164), and at Minehead in Devon, the earliest post-Glacial bed is a land deposit containing worked flints (*ante*, p. 165).



General View of the Curran at Larne.

R. Welch, Photo.

sand, fine grey sand, Lower estuarine clay, Upper estuarine clay, Yellow mud, Surface clay

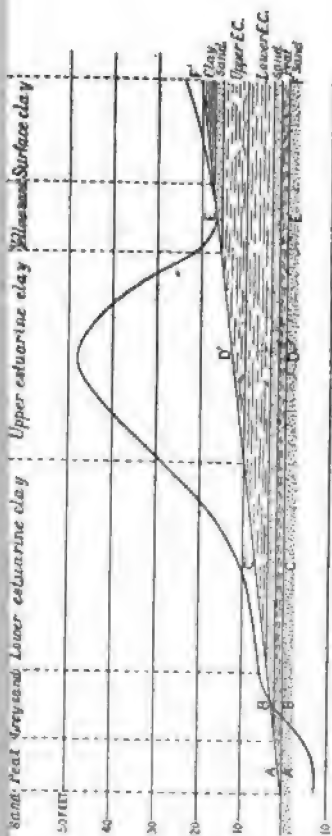


FIG. 3.

Graphic Representation of Changes of Level.



1

2

3

4

5

6

7

8

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11

12

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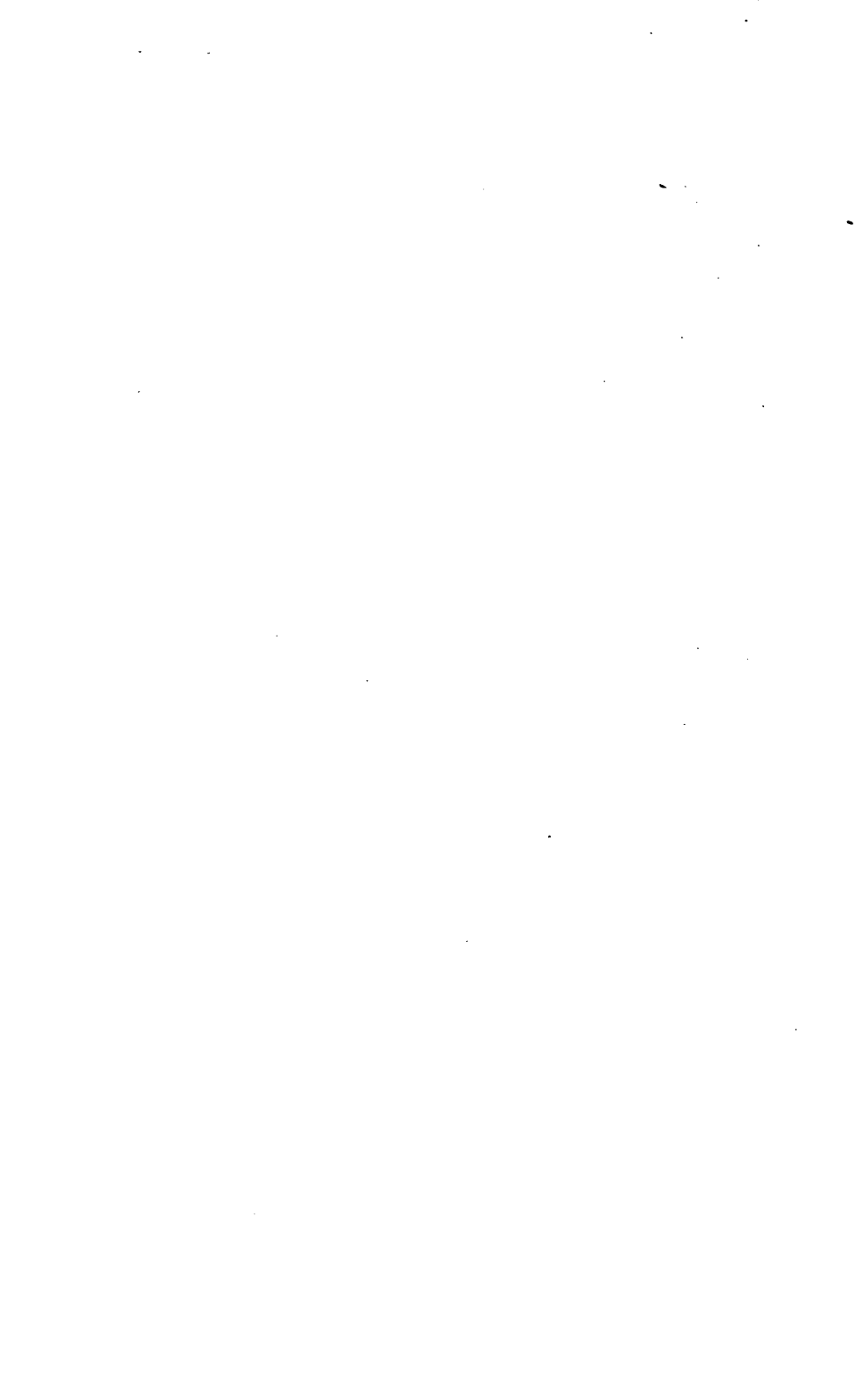


Section at the Larne Aluminium Works, where the
soil is very thin.





Wind-excavated Pit in the Portstewart Sand-dunes, showing "black layers."





Wind-excavated Pit in the Portstewart Sand-dunes, showing "black layers."



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LIBRI SANCTI PATRICII:

THE LATIN WRITINGS OF SAINT PATRICK.

EDITED, WITH INTRODUCTION, TRANSLATION, AND NOTES,

By NEWPORT J. D. WHITE, D.D.,

Keeper of Primate Marsh's Library, Dublin, and Assistant Lecturer
in Divinity and Hebrew in the University of Dublin.

[Read NOVEMBER 14, 1904. Ordered for Publication NOVEMBER 16, 1904.

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PREFACE.

THE best apology for the publication of a new edition of the Latin Writings of St. Patrick is the history of the printed text. With the exception of Sir James Ware, and Andreas Denis the editor of the Bollandist text, none of those who have printed these tracts has availed himself of all the ms. evidence which he knew to be extant when he wrote; and, great as were the services to learning

of Ware and Denis, their editorial ideals were not those of modern scholars.

The Latin Writings of St. Patrick were five times printed during the nineteenth century. In every case, they were treated as a fragment of a large design; and naturally their interests, so to speak, suffered. They are so very short, that it was not thought worth while to bestow on them the exact and critical treatment which their importance demands. A glance at the Bibliography will prove the truth of this statement.

The present edition is the first in which an attempt has been made to construct a text of the *Libri Sanoti Patricii* on a definite critical principle from all the known mss. Finality is by no means here pretended to; the discovery in some Continental library of a ms. of the type of the text in the Book of Armagh would certainly necessitate a revision of those portions where that ms. is not available; but it is hoped that the conclusions arrived at in the Introduction as to the relative value of the other mss. will so far commend themselves to scholars as to minimise the importance of the discovery of a ms. akin to that of Arras.

The absolutely new matter in this edition is the evidence of the Rouen ms., the existence of which was made known to me by the Rev. Hippolyte Delehaye, s.j., shortly after its discovery in 1903. For this kindness I desire here to express to him my sincere thanks. The student will also find here the true readings of the extant portions of the Arras ms. used in the Bollandist edition of 1668; and the complete evidence of A, as presented in the first really accurate transcript—that prepared by Dr. Gwynn for his forthcoming edition of the Book of Armagh. It is also hoped that the presentation of the readings of the other three mss. will be found satisfactory.

My obligations to others are manifold; but my chief debt of gratitude is due to the Rev. John Gwynn, D.D., D.C.L., Regius Professor of Divinity in the University of Dublin, who permitted me to use the final proof-sheets of his edition of the Book of Armagh, and has also carefully read the proofs of this edition; and in every difficulty has most generously given me the benefit of his wide erudition and sound critical judgment. The suggestions which I have acknowledged in the notes give a very inadequate idea of the extent to which I am indebted to his wise counsels.

My thanks are also due to the Very Rev. J. H. Bernard, D.D., Dean of St. Patrick's Cathedral, and Archbishop King's Lecturer in Divinity in the University of Dublin, at whose suggestion this edition

was undertaken, and who kindly communicated to me an unpublished paper of critical notes on the Biblical quotations in St. Patrick's writings; and in this connexion I must acknowledge my obligations to Mr. F. C. Burkitt, of Cambridge, who was good enough to read over the proof-sheets of my own notes on the Biblical citations, and supplied me with some important references, especially to St. Cyprian. I am also indebted to Prof. H. J. Lawlor, D.D., for some valuable suggestions.

If this paper contributes in any degree to the presentation of the mind of St. Patrick—his *qualitas*—in somewhat sharper outline than has hitherto been the case, it will have fulfilled its purpose. The scope of the paper is very limited, as I have deemed it advisable to confine myself altogether to St. Patrick's Latin Writings. The critical narrative of his personal history is in more competent hands.

INTRODUCTORY MATTER.

THE MANUSCRIPTS AND TEXT.

THE manuscripts of the *Libri Sancti Patricii* that are at present known to scholars are six in number:—

(1). That contained in folios 22–24 of the Book of Armagh, in the Library of Trinity College, Dublin. These leaves present considerably more than half the Confessio. It is only necessary here to note that the Book of Armagh was transcribed between A.D. 807 and A.D. 846, by Ferdomnach, the official scribe of Armagh (see Graves, *Proceedings, Royal Irish Acad.*, vol. iii. p. 316; Bury, *Eng. Hist. Review*, Ap., 1902, p. 238, n.). This ms. is cited as A. The first person to make literary use of A was Ussher in his *Britannicarum Ecclesiarum Antiquitates, Dublinii*, 1639. Ussher's citations will be noticed further on when the Bollandist text comes under consideration. The Confessio was printed *in extenso* by Sir James Ware in the editio princeps, *S. Patricio, Qui Hibernos ad fidem Christi convertit, adscripta opuscula, Londini*, 1656.

I am indebted to Dr. Gwynn for permission to use the proof-sheets of his reproduction of the Book of Armagh for the purposes of this edition.

(2). The ms. which is cited by Haddan (*Councils, &c., Haddan and Stubbs*) as B, was first published—at least so far as the writings of St.

Patrick are concerned—in the Bollandist *Acta Sanctorum Martii*, tom. ii., Antwerpiae, 1668. The title is given as follows: *Confessio S. Patricii de vita et conversatione sua. Quam ex vetustissimo Nobiliacensis S. Vedasti monasterii codice eruit Andreas Denis, Atrebas, e Societate Jesu.*

The ms. is a large folio measuring 44 × 31 centimetres, written in a very clear twelfth-century hand, in two columns of forty-eight lines. It belonged originally to the Benedictine establishment of Saint Vaast, Arras, and with the rest of that library became the property of the State at the Revolution. It is now in the Public Library of Arras, and classed "No. 450. Bibliothecae Monasterii Sancti Vedasti Atrebatensis, 1628, F. 2." Unfortunately, since its first and only publication, two folios have been lost—in all probability in the unsettled times that followed the spoliation of the Monastery of St. Vaast. In a letter which I received from M. Wicquot, Conservateur de la Bibliothèque d'Arras, he says: "Plusieurs manuscrits de la bibliothèque d'Arras ont été malheureusement mutilés, il y a une centaine d'années. Les deux feuillets entre folio 51 et 52 et entre 52 et 53 ont été déchirés, et par conséquence aujourd'hui perdus, sans espérer pouvoir les retrouver."

The proportion of B which we have at first hand may be calculated thus. If we take the line space in Dr. Whitley Stokes's edition as a measure of length, the *Confessio* occupies 571 lines, and the *Epistola* 178, more or less. The manuscript of B is available for 345 lines of the *Confessio*, and 57 of the *Epistola*. The *Confessio* begins in the middle of the first column of fol. 50, verso, and fol. 51 completes 185½ lines, or to the beginning of section 20 in the present edition. Fol. 52 covers 159½ lines, or from near the end of section 40 to the beginning of section 59; and, for the *Epistola* we have 1½ columns of fol. 53, recto, covering 57 lines, or from the middle of section 15 to the end. The two gaps amount respectively to 191 and 155½ lines. This disparity in the amount of matter contained in the two lost folios can be easily accounted for. Two scribes at least were employed on the *Confessio*, and one of them wrote the first 24 lines of fol. 52, recto. The writing of this scribe is so much smaller than that of his colleague that his half column covers 26½ lines against 20½ covered by the other half column. Something, too, must be allowed for the space occupied by the initial letter of the *Epistola* (the initial P of the *Confessio* covers 7 half lines), and the interval between it and the *Confessio*.

For this edition I have used a first-rate photograph prepared by J. Gonssemaume, of Arras. A careful collation of these plates with the Bollandist edition demonstrates the necessity of distinguishing between

the authority of the ms. itself and that of the ms. as edited by A. Denis. Hence I have cited them respectively as B and Boll.

(3). The *Confessio* and *Epistola* are contained intact in the Cotton ms. Nero, E.I. in the British Museum. The *Confessio* begins on fol. 169, verso. This ms. is assigned to the twelfth century, and is cited as C. C was used by Ussher (*Brit. Eccles. Ant.*), and also by Ware in the editio princeps.

(4 and 5). Fell 3 and Fell 4, Bodleian Library, Oxford, also contain the *Confessio* and *Epistola* in their entirety.

These volumes of *Acta Sanctorum* were, with four others, borrowed by Archbishop Ussher in September, 1640, from the Library of Salisbury Cathedral. Ware used them for his edition (*binis Ecclesie Sarisburiensis*). After many vicissitudes four of the six volumes came into the hands of Bishop Fell, and finally in 1686 passed with the rest of his manuscripts into the Bodleian Library. (See H. J. Lawlor, *The MSS. of Vita S. Columbani, Transactions R.I.A.*, vol. xxxiii. C., Part i., p. 36). The two volumes with which we are here concerned were formerly classed Fell 1 and Fell 3. The *Confessio* begins on fol. 7, recto, of Fell 3, and on fol. 158, recto, of Fell 4. They are cited here as F 3 and F 4. Mr. E. W. B. Nicholson gave it to me as his opinion that F 4 was written in the last quarter of the eleventh century, and F 3 in the first quarter of the twelfth.

(6). The last leaves (fol. 157, verso—159) of a ms. in the Public Library at Rouen, containing the first half of the *Confessio*. These leaves are in a very damaged condition, and are not mentioned in Omont's official catalogue of the Rouen Library.

For my knowledge of the existence of this ms. of the *Confessio* I am indebted to the courtesy of the Rev. Hippolyte Delehaye, s.j., Société des Bollandistes, Brussels, one of whose colleagues discovered it in 1903. I was furnished with excellent photographs of the five pages by M. Henri Loriquet, Conservateur de la Bibliothèque Publique de la Ville de Rouen. The following extract from his correspondence with me may be of interest:—"Le dernier feuillet porte une grande déchirure qui entame la bordure de quelques lignes. . . . Les dimensions sont 308 sur 235 millimètres. . . . Votre ms. est décrit tout au long avec ses nombreuses vies des saints, dans le *Catalogue général des bibliothèques publiques de France*, t. i., pp. 373-375. Il y figure sous le n° 1391. Il s'appelait précédemment: 'U. 39'; plus anciennement: 'U. 53,' et plus anciennement encore: 'Jumièges, G. 9.' M. Omont, auteur de ce catalogue, a précisément oublié de mentionner la 'Conf. Patr.' De plus, il indique le ms. comme étan

du xii siècle. En réalité il est écrit de plusieurs mains, et j'incline à croire qu'il est plutôt du xi siècle."

We must now take into consideration the textual character of these six mss.

The unique associations that are recalled by the Book of Armagh, and its relatively great antiquity—having been transcribed at least 250 years earlier than any of the other mss.—have biassed the judgment of some scholars when dealing with its peculiarities. The most disturbing of these are its omissions. It does not contain the Epistola, yet the title prefixed to the Confessio, *Libri Sancti Patricii*, implies that it must have been, originally at least, included in the contents of the exemplar which Ferdomnach copied. But the absence of the Epistola is less perplexing than the omissions—for such we must regard them—in the Confessio.

Assuming that the other mss. present the Confessio in its entirety, there are five lacunæ in A. The first begins with § 26 of the present edition, and covers nearly 20 lines; then we have $11\frac{1}{2}$ lines of A, followed by a gap of 30 lines; then $5\frac{1}{2}$ lines of A; then a gap of 15 lines. The next section of A is that in which the scribe betrays his impatience of the string of texts that he saw before him; so that in calculating its length we are entitled to allow for the texts when written in full. We reckon it then at 39 lines, or a little more. We then have a lacuna of about 88 lines, followed by $11\frac{1}{2}$ of A, and finally a gap of about 37 lines before the concluding paragraph of A, which covers 6 lines. It will be noticed that of the short sections of A two occupy each $11\frac{1}{2}$ lines, and two others $5\frac{1}{2}$ and 6 respectively, and that the length of the lacunæ are, roughly speaking, multiples of 5 and 6. I have estimated them respectively as 20, 80, 15, 88, 37.

It would be unreasonable to suppose that each page of the exemplar would contain exactly the same number of letters and letter spaces; and therefore the figures just quoted point to the hypothesis that the exemplar from which the Confessio was copied into the Book of Armagh was written on very small folios, possibly not in a very neat hand, so that each folio did not contain more words than five or six lines of the present edition, and that a considerable number of leaves had been lost. The note at the end: *Huc usque volumen quod Patricius manu conscripsit sua*, cannot be pressed as proof that Ferdomnach had before him the actual autograph, since it might have been merely repeated from a copy of the autograph. But all the facts can be explained by the supposition that we have, in the Book of Armagh, all that remained of the autograph, or what was thought to

be the autograph, in the year 807; and that it was then thought well to copy the precious document into the official Armagh repertory, without at all implying that other copies were redundant or interpolated. The marginal notes *incertus liber* and Z (however explained) certainly support the theory that Ferdomnach's exemplar was a very old one.

The truth is, that if these lacunæ had occurred in any other ms. than the Book of Armagh, it would never have occurred to anyone to speak of the other mss. as interpolated. There is absolutely no difference in style between the passages that are and that are not in A. St. Patrick's style is abrupt; but the Confessio, as read in the other mss., is much less violent in the transitions of thought than as read in A. It must, however, be noted that the proofs drawn from the manuscript itself in support of the view that the Confessio is deliberately abridged in A cannot be pressed. Graves urged as bearing on this the occurrence here and there of Z in the margin, and the words in § 40: *et caetera, reliqua usque dicit saeculi, reliqua sunt exempla*. But this Z never occurs at the beginning or end of a lacuna; it is found only where there is a textual or exegetical difficulty; and the disinclination to copy out at length familiar texts is not unusual in transcribers of catenæ.¹

The fact that Tírechán actually quotes from a portion of the Confessio which is not in A, seems a conclusive argument against the interpolation theory: *Extendit [expendit] Patricius etiam praetium xu animarum hominum, ut in scriptione sua adfirmat, de argento et auro, ut nullum malorum hominum impederet eos in via recta transcurrentes totam Hiberniam* (Bk. of Armagh, fol. 10, verso, b. l. 34). See Conf. § 53 *Censeo enim non minimum quam pretium quindecim hominum distribui illis*.

It has been just stated that the marginal notes in A cannot be urged as a proof that the text is an abridged one; but at the same time when we have set out our *apparatus criticus*, we find that there is a considerable number of places in which A omits words and clauses which are found in all the other mss., and which in most cases seem necessary to complete the sense.

The following examples do not include the two omissions of

¹ Graves explained this Z as *ζυρεῖρε*: see Todd, *St. Patrick*, p. 348; but the facts just stated are rather in favour of a conjecture which has been suggested to me, that it stands for *Zabulus*, i.e. Diabolus, and that the scribe means to suggest that he had been at work to cause whatever error or confusion occurred in the book. Professor Bury calls it "the mark of query." *Eng. Hist. Review*, July, 1903.

texts which Ferdornach himself acknowledges in § 40 by the notes *reliqua usque dicit sæculi* and *reliqua sunt exempla*.

At the end of § 20, in his eagerness to abridge a text, the scribe omits the first part of the sentence following; and we have *inquit Dominus, non uos estis. Multos adhuc capturam dedi* for *inquit: In illa die, Dominus testatur, "Non uos estis qui loquimini, sed Spiritus Patris uestri qui loquitur in uobis."* *Et iterum postea nos multos adhuc capturam dedi.*

The omissions in § 54 are best shown by quoting them, bracketed, in their context.

Neque ut sit occasio [adulationis uel auaritiæ scripserim] uobis, neque ut honorem spero ab aliquo uestro. Sufficit enim honor qui non[dum uidetur sed corde creditur. Fidelis autem qui promisit, nunquam] mentitur.

Less remarkable are: *Dominus præstare* § 3, *et inuisibilia . . . ad Patrem receptum* § 4, *prodessem* § 13, *quo* § 17, *nocte* § 20, *dies per* § 22, *ab extremis terras* § 38, *certissime quod mihi* § 55, *Dei placitum* § 62.

In these cases there can be no reasonable doubt that A is wrong, and in only two instances, viz., in §§ 20 and 62, does the scribe indicate, by writing Z in the margin, that he was conscious that his exemplar was at fault. There are besides some sixteen or seventeen other places in which clauses are omitted in A, in cases where the omission does not make nonsense.

On the other hand, there are only four instances in which A inserts clauses that are absent in the other mss. These are: *quid peterem uel* § 10, *ipse est qui loquitur in te* § 24, *et ab austro et ab aquilone* § 39, and *et docet* § 40. Of these insertions, the only one which is possibly wrong is the first. The conclusion, then, at which we naturally arrive, is that the fact that A omits certain words and clauses is not strong evidence against their genuineness, though some of A's omissions do commend themselves on consideration.

In truth, although we cannot acquit the scribe of A of the charge of carelessness and haste, yet such is the relative antiquity of the text that, save as regards its omissions, it seems the safest course to follow it, except when it is absolutely unintelligible. It frequently happens that where A is against all the other mss., their reading, although at first attractive, is found on mature consideration to be merely a plausible emendation.

Before we deal with the affinities of the other mss. with A and with each other, it may be well to say a word about their respective peculiarities.

Hitherto the Bollandist edition has been cited as if it were a manuscript ; and since unfortunately the Bollandist text is now the only representative of two folios of B, it will be necessary to justify the statement made above, to the effect that B and Boll. differ somewhat in their authority.

It is only fair to say that Denis did not profess to base his text exclusively upon his manuscript. It was the only one to which he had access ; and he might be pardoned for thinking it very imperfect. In the first place, it is entitled, *Vita Beati Patricii* ; and he also had before him Colgan's *Triadis Thaumaturgae* . . . *Acta*, Lovanii, 1647. In the Fourth Life of St. Patrick contained in that work, § 16 of the Confessio is quoted as *in libro quem de vita et conversatione sua ipse composuit*. Denis accordingly fancied that the Confessio, as it came from St. Patrick's pen, was a fairly exhaustive autobiography. Hence his complaints of the lacunæ in his ms. ; e.g., after *neglegentias meas*, § 46 of this ed., he prints dots, and notes, "Locus hic, librorum socordia deprauatus, uidetur de peregrinationibus Patricii habuisse nonnulla." Similar notes occur in three other places. Moreover, more than once he confesses to having amended the text by the aid of the extracts from the Confessio in Vita iv., and of those given by Ussher from A, as Denis assumed them to be.

Thus, for the reading *in capturam decidi* § 1, for *capt. dedi*, he acknowledges his obligations to Vita iv. On his § 6, on the word *pecora* (§ 16 of this ed.), Denis subjoins the following note :—

"Reliqua huius numeri ex suo ms Usserus exhibet, unde nonnullas apographi nostri lacunas suppleuimus ; plura simili modo correcturi, si ille totum textum protulisset." The section ends with *de hominibus habebam* (§ 17).

Again, on § 20, *Eadem vero nocte*, &c., we find this note : "Qui sequitur locus, in Vita iv. totus transcriptus, egrapho nostro emendando profuit." Again, on the passage commencing *Et iterum post annos multos* § 20 ad fin., and ending *expergefactus sum* § 28. Denis notes "Hactenus totum hunc locum, Maccutheno citato, profert Usserus, p. 832." It remains that we should determine how far in reality Denis used these helps.

Let us first of all examine the citations given by Ussher. They are five in all ; and we shall observe that Ussher constantly departs from A, and gives the readings from C. As far as we know he had not seen F 3 and F 4 until 1640.

I give herewith a collation of the passages with A, not noting Ussher's modernisation of the spelling.

(a) § 1. Ussher, p. 818. Patrem—Taberniae.

Calpornium CB . . . *diaconem* CB . . . *quondam* CB . . . ins. *in* [uico] C . . . *Bonaum* no ms.

This citation has not affected Boll.

(b) §§ 1, 2. Ussher, p. 828. Annorum eram—ut pater filium. *milibus* Vita vii . . . *usl sero rememorarem* CB . . . *et ut conuerterer* C . . . *adolescentiae et ignorantiae* Vitae ii., iv., vii., as well as B . . . *consolatus est me* CB.

There are here five material variations from the text of A. But for none of the variants of Boll. can Denis be said to be indebted to Ussher.

(c) §§ 16, 17. Ussher, p. 829. Cotidie—sex annis.

Om. itaque [igitur CB] . . . ins. *et* [ante lucem] CB . . . [responsum] *dicens* . . . [cum] *quo* [fueram] CB.

We have here four material variations from A. *dicens* and omission of *itaque* are the only ones not found in B or C. Denis adopted these and also the following readings of A preserved by Ussher:—*amor* so C . . . om. in bef. *monte* . . . ins. *sentiebam* . . . om. *et terram* . . . ins. *iterum* . . . ins. [non] bef. *erat prope*—six in all.

It is characteristic of Denis that of the three insertions adopted from A only one is indicated by square brackets.

(d) § 21. Ussher, p. 832. Et iterum post annos—de manibus eorum.

ins. *Et iterum post annos* [multos] C . . . *utique* for *itaque* no ms. ins. *dicens mihi* (C has *dicentem mihi*) . . . *duos menses* C.

Here B is not extant, so that we cannot say with certainty whether any of these variations from A which are in Boll. were in B. *Dicens* for *dicentem* probably was not. On the other hand, A and Boll. agree in *nocte illa sexagesima* against CF₂F, *nocte illa sexagesimo die*.

(e) § 23. Ussher, p. 832. Et iterum post paucos—expergefactus sum.

Britanniis No ms. . . . *nunquam* C . . . *vidi in visu nocte*, and om. *vidi infra* C . . . om. *quasi* No ms. . . . *Victoricius* C . . . *illis* C . . . *Hiberionacum* C . . . *ipso momento* C, with the reading of A, *ipso in mente*, noted in the margin. . . . ins. *quasi ex uno ore* C . . . *ambules* C . . . *expergefactus* C. Seven material variations.

Here again B is not extant; but Denis expressly notes that the important place-name *Focluti*, which he adopts from Ussher, was not in his ms., “*Virgulti* habebat ms.”

There are a few other places in which Denis quotes, not always correctly, the reading of his ms. in rejecting it.

These may be given in their order.

Conf. § 18. *repuſi sugere mammas eorum* (*reppuſi sugire* B). Denis conj. *debui surgere in nauem eorum*.

Conf. § 20. *nihil membrorum meorum praeualui* (*deest* B). Denis (from Vita iv.) *omnium membrorum meorum uires abstulit*.

Conf. § 46. *intelligi*. Denis conj. *iter illud*.

Conf. § 49. *nominibus*. Denis conj. *in omnibus*; so F₁.

Conf. § 53. *iudicabant*. Denis conj. *indigebant*.

Ep. § 16. Denis notes that he omits: *Nonne unum Deum habetis? Quod dereliquistis unusquisque proximum suum?* B has *quid* for *quod*.

On the other hand, in Conf. § 11, having left out the obscure words *ratum et fortissimum*, he merely notes, "Si haec disunctio non sufficit sanando huic loco, necesse est aliquid excidisse," without the least hint as to the nature of the omitted words.

But this does not carry us very far. The quotations found in the *Lives* are not much more extensive than those in *Ussher*; and it might fairly be assumed that the rest of the text was a faithful transcript of the *ms.* Denis certainly professed to mark his own interpolations by printing them within square brackets. The first of these occurs in the creed, § 4, after *inuisibilia* [qui Filium sibi consubstantialem genuit] with the added note, "Haec aut similia uerba in *ms.* Atrebatensi desiderari contextus indicat, ad cuius exigentiam in sequentibus nonnulla supplebimus [] includenda." There are besides in the *Confessio* 25 such insertions, mostly of only one word, 3 are of two words, and 1 of three words. In the *Epistola* there are 19 interpolations thus acknowledged, 2 of them being of two words.

Unfortunately our confidence in the editorial trustworthiness of Denis is considerably shaken by a comparison of the photograph of the extant folios of B with the printed text. I have classified the deviations of Denis from his *ms.* under the heads of insertions, omissions, transpositions, and alterations. I have not reckoned the emendations for which he was indebted to *Ussher* and to *Colgan's Lives*, nor those of which he informs the reader; and I find altogether at least 23 insertions of single words and 1 insertion of two words; 24 omissions of single words, 4 omissions of two words, 2 omissions of clauses; 15 transpositions, one of them being of two clauses; and finally no less than 117 material alterations, 9 of them affecting more than one word. It is not to be supposed that if the whole *ms.* were extant we should find a greater degree of fidelity exhibited in Denis's treatment of the two lost folios.

So much it has been necessary to say in order to explain why it is that we cannot be sure of what the reading of B was when we are dependent on Denis's presentation of it. It would be unreasonable in the highest degree to expect from Denis what we do not find in Ussher or Ware. The degree of accuracy which is an ideal in the twentieth century² was unimaginable in the seventeenth; and it must not be forgotten that it is chiefly through the Bollandist *Acta Sanctorum* that the writings of St. Patrick have been known to scholars throughout Europe. Many of the textual emendations that have been adopted in this edition are due to the sagacity of Andreas Denis.

Even a passing glance at the *apparatus criticus* reveals the fact that, where A is available, the great majority of the variants from its texts are supported by all the other mss. Accordingly, in these cases, it has been thought best to use the term *rell.* in place of the full series BCF₂F₄R or Boll. CF₂F₄R. Further, the most constant members of this group are CF₂*. In fact, neither of these two mss. presents any distinctive readings worth mentioning. In the Confessio C has five omissions by homoioteleuton in §§ 1, 10, 40 *bis*, 60, and some other insignificant variants, most of which are unintentional blunders of the scribe; and F₂* has fewer still. F₄ has been corrected throughout in respect of grammatical forms, in so far as was possible to do so by erasure and letters written over erasure. There are no marginal corrections, and hardly any interlinear ones, so that it is impossible to say when the corrections were made. In any case they have no more authority than the emendations of a modern editor. Nevertheless, as being after a fashion ms. evidence, they have all been recorded in the foot-notes.

I have only noticed two cases where C agrees with A against BF₂F₄, i.e. *amor Dei* for *timor Dei* in § 16, and the omission of *mihi* bef. *honor* in § 54. The similar agreements of F₄ with A are more trifling still, i.e. *unde* for *inde* in § 18, and the omission of *inquit* after *Dominus* in § 40, *sicut Dom. in aeuangelio ammonet*, &c.

C and F₄ agree so closely, not only in genuine variants, but also in blunders and strange spellings of words—they actually have in common an omission by homoioteleuton in Ep. § 13—that they cannot be considered as independent authorities. As far as the text is concerned, F₄ cannot be a copy of C; both are probably copies of the same exemplar. This, however, does not affect the fact that CF₄, which we must treat as one authority, is the most constant member of the *rell.* group, the common parent of which, although possibly later than A, must have been of considerable antiquity.

On the other hand, the unique readings of B are too numerous to mention; and, speaking generally, they betray the hand of a rather clever editor. Not only has he corrected the grammar of individual words, but in very many cases the turn of phrase is altered. This is all the more to be regretted, inasmuch as B more frequently agrees with A against the rest than any of the others. Where A is absent, the issue nearly always lies between B or Boll. and CF₁. F₁ is usually found on the side of CF₁, but deserts to B or Boll. occasionally. One has to choose, that is, between *rell.* whose inferiority to A is usually evident, and B or Boll. whose greater affinity to A is obscured by its predominating artificial character. It seems the lesser of two evils to follow CF₁ as far as possible; that is, except where its reading is evidently a blunder or unintelligible.

F₁ and R are nearly allied, as will be seen from the examples of group-readings subjoined.

F₁ is, perhaps, the most carelessly written of the six mss. Its contribution to the list of unimportant variants is the largest of any; but occasionally it seems to have preserved the true reading. R, like B, has been edited, but not so extensively. Interesting examples are:—§ 1. *Calpurnium diaconem quondam filium Potiti* for *filium quondam*, which suggests that Calpurnius had ceased to be an ecclesiastic before his marriage; § 1. *Annorum eram tunc fere quindecim* for *sedecim* to make Patrick's captivity follow immediately upon the sin to which he alludes in § 27; and § 14 *gallias* for *exgallias* BCF₁, or *exagallias* A, in order to mark an allusion to Gaul.

LIST OF GROUP-READINGS.

AB.

- § 1. *Conuerterem* (B) is nearer *confirmarem* (A) than is *conuerterer*.
- § 2. *Aperuit sensum* for *ap. sensus*.
Adoliscientias ignorantias meas A; same order in B, which ins.
et; adol. meas et ignor. CF₁F₁R.
- § 4. Ins. *nec ante*.
- § 6. *Fratribus et cognatis meis*, dat for acc.
- § 9. *Doctrina ueritatis* for *Doct. uarietatis*.
- § 10. *Spiritus gestit* for *Spir. gessit*.
- § 13. *Transtulit et donauit* for *Trans. ut don.*
- § 15. *Non eram dignus* for *Non etiam dign.*
- § 16. *Excitabar ad orationem* for *Exercitabur ad or.*

§ 18. *Reppuli sugere mammellas eorum* A. B here has *sugire mammas*; but the variants of CF₄, F₃R are still more remote.

§ 20. *Quandiu fuero in hoc corpore* for *Q. fueram*, &c.

§ 41. *Virgines Christi esse uidentur* for *Uirg. C. ipse uid.*

§ 55. *Ego uero miser. ins. uero* AB.

It must be remembered that B breaks off near the commencement of § 20, and that the two mss. only meet again in the very short §§ 41, 54, 55. The following agreements of A and Boll. are taken from portions of the Confessio not accessible to Denis in Ussher's work.

§ 20. *Dum clamarem Heliam* for *Dum clamabam*, &c.

§ 22. *Peruenimus omnes* (2). Here F₃ joins the group. CF₄ read *Peru. ad homines*, with Muirchu. Note that A and Boll. om. *ad* bef. *omnes* (1).

§ 24. *Qui dedit animam*, &c. Here CF₄ read *posuit*. F₃R have no verb at all.

§ 29. *Faciem designati* for *Fac. Dei signati* CF₃F₄.

§ 30. *Inpediret a profectione* for *Inpenderet* CF₃F₄*.

§ 35. *Nec iniuriam legentibus faciam* A. Boll. has *Nō*; CF₃F₄ *Nec et*.

The groups AC, AF₄ have been already noticed, p. 212. I have only observed one reading in which AF₃ stand alone, § 4 *et omnis lingua*, where the other four read *ut*. The agreements of R with A are not worth mentioning.

The two passages which afford the clearest guide to the affinities of the mss. of the Confessio are to be found in §§ 18 and 19.

1. (a) *Reppuli sugere mammellas eorum* A.
 Reppuli sugire mammas eorum B.
 (b) *Repulis fugire mammas illorum* F₃R.
 (c) *Repulsus sum fugere amicitias illorum* CF₄.
2. (a) *Canes eorum repleti sunt* A.
 (b) „ „ *reuelati* „ BF₃R.
 (c) *Carnes* „ *releuati* „ CF₄.

We see here at a glance the close relationship of the *fundamental* text of BF₃R to A. At the same time, when we bear in mind the general inartificial character of CF₄, and the fact noticed above that in § 22 Muirchu supports its reading *ad homines*, it seems difficult to condemn the (c) readings as mere emendations. It is not necessary to give any more instances of the peculiar readings of CF₄. They will

be found to be very numerous. It may, however, be worth while to place before the reader other examples of the group F₃R.

- § 1. *Calpurnium*. A has *Calpornum*, BCF₄ *Calpornium*.
 § 4. *Ut diximus* for *Ut dicimus*.
 § 19. *Conuertimini ex fide ex toto corde*. A has *Conu. ex fide*. B
Conu. ex toto corde. CF₄ ins. *et* after *fide*.
 § 19. *Cibum mittat nobis* for *uobis*.
 § 20. *Ignarum et spiritu*. All the others read *in sp*.
 § 20. *Et ecce splendor*. All the others om. *et*.
 § 23. *Brittanniis*. A has *Britannis*; CF₄, *Britanniis*.
 § 24. *Qui pro te animam suam*. CF₄ add *posuit*. A and Boll. read
dedit, with the order of the other words variously altered.
 The following combinations of B may be of interest:—

BF₃.

- Conf. § 18. *Fortiter exclamare* for *Fort. exclamabat*.
 § 40. *Et Osee dicit*. CF₄ ins. *in*.
 § 42. *Nuntio Dei* for *Nutu Dei*.
 § 44. *Preposita castitate* for *Proposita cast*.
 § 48. *Inter uos* for *Apud uos*.
 Ep. § 18. *Ignis aeterni* for *Ign. aeternae*.
 § 21. *Poeniteant* for *Poeniteat*.
 § 21. *Captiuos...quas* for *Capt. quos*.

BOLL. F₃.

- Conf. § 25. *Aduocatus est noster*. The others om. *est*.
 § 34. *Auderem aggredi* Boll. For *audorem* F₃ has *audirem*,
 CF₄ *adire*.
 § 35. *Admoneret* for *Admonuit*.
 § 37. *Darem me et ingenuitatem meam* Boll. F₃ om. *et*; CF₄
 om. *me et*.
 § 60. *Neque permanebit*. CF₄ pr. *et*.
 Ep. § 4. *Nescio quid* for *Nescio quod*.
 § 5. *Quapropter resciat*. C has *Quarepropter sciat*; F₄
Propter quam rem sciat.
 § 8. *Quasi qui uictimat*. om. *qui* CF₄.
 § 8. *Quas congregauit*. *Quas congregabit* CF₄.
 § 10. *Alligatus sum spiritu*. om. *sum* CF₄.

BR.

- Conf. § 3. *Quae est sub omni caelo.* om. omni BR.
 § 7. *Perdes eos qui loquuntur.* omnes for eos BR.
 § 13. *Et uos Domini.* A has *dominicati*; CF₂F₄ *domni*.
 § 18. *Et ut unirem.* A om. *et*; CF₂ corr F₄ *ut et*.
 § 18. *Hoc obtinuit for obtinui.*

BOLL. R.

- § 23. *Ut uel modo ego post.* &c., om. ego Boll. R; CF₂F₄
 read *ms.*

ABF₃.

- Conf. § 17. *Et nihil motuebam.* CF₄ have *Ex nihilo mot*.
 § 55. *Quotidis spero.* CF₄ have *Quotidie sperno*. See also
 § 22 noted above (p. 214).

ABR.

- Conf. § 14. *Dei nomen ubique expandere.* CF₂F₄ ins. *nomine* bef.
ubique.

The inartificial character of CF₂F₄ is perhaps most clearly perceived on an examination of the Biblical citations in cases where the *apparatus criticus* of the Confessio and Epistola exhibits variants. A scribe is always liable to the temptation to write quotations from the Bible in the phraseology that is most familiar to him. Speaking generally, the text of the Latin Bible that was current when these mss. were written, is that of the Vulgate as usually printed. In the subjoined list, the Biblical quotations are taken from the Clementine Vulgate, those words only being italicised of which there are variants in the mss. of St. Patrick. The list is restricted to passages from the Psalms and New Testament, as being from their familiarity most liable to emendation.

- Ps. v. 7. Conf. § 7. *Perdes omnes qui loquuntur mendacium.* So BR.
eos AF₂F₄; *Perdes qui* C.
 Ps. xxxiii. 4. Conf. § 34. *Exaltemus nomen eius.* So Boll., *Exaltarem*
... nomen tuum. *Exultarem* CF₂F₄.
 Ps. cxv. 12. Conf. § 57. *Pro omnibus quae retribuit mihi.* So B.
retribuatur CF₂F₄.
 S. Matt. iv. 19. Conf. § 40. *Uenite post me, et faciam uos fieri*
piscatores hominum. So A. Boll. om. *et*; CF₂F₄ om. *fieri* with
h, Ambr, Aug.

- S. Matt. viii. 11. Conf. § 39. Vg. om. *et ab austro et ab aquilone*, which A alone ins.
- S. Matt. xii. 36. Conf. § 7. *Reddent rationem de eo in die iudicii.* So A. *Pro eo rationem* BCF₃F₄; *de eo rat.* R.
- S. Matt. xvi. 26. Ep. § 8. *Si mundum universum lucretur, animas uero suas detrimentum patiatur.* Boll., *Si . . . lucr., se autem ipsum perdat* [S. Luke ix. 25] *et detr. an. suas pat.* CF₃F₄, *Ut . . . et an. suas detr. pat.*
- S. Matt. xxviii. 19. Conf. § 40. *Euntes ergo, docete . . . baptizantes eos . . . docentes eos seruare . . . quaecunque mandauī.*
A *ergo nunc . . . eas . . . obseruare . . . mandauī.*
Boll. *ergo eos . . . seruare . . . dixero* [S. John xiv. 26].
CF₃F₄ *ergo eos . . . obseruare . . . mandauī.*
- S. Mark xvi. 15, 16. Conf. § 40, Ep. § 20. *Euntes in mundum . . . Qui crediderit . . . saluus erit.* In Conf. § 40. ACF₃F₄ ins. *ergo* bef. in; Boll. om. In Ep. § 20 B has *crediderint salui erunt.* CF₃F₄ retain the sing.
- S. Luke x. 30. Conf. § 19. *Semiuiuo relicto.* A has *semiuiui relicti; rell derelicti.*
- S. Luke xxiv. 45. Conf. § 2. *Aperuit illis sensum.* So AB. *sensus* CF₃F₄R.
- S. John viii. 34. Ep. § 4. *Qui facit peccatum seruus est peccati.* So Boll. om. *peccati* CF₃F₄ with *b, d*, Cyprian.
- Acts ii. 5. Conf. § 3. *Omni natione quae sub caelo est.* So B. *quae est sub omni caelo* ACF₃F₄; *quae est sub caelo* R.
- Acts ii. 17 (Joel ii. 28). Conf. § 40. *Iuuenes uestri uisiones uidebunt.* So B. *Filii* CF₄. *Filii uestri* is omitted in F₄.
- Acts xiii. 47. Conf. § 38. *Posui te in lucem gentium, ut sis in salutem usque ad extremum terrae.* ACF₃F₄ have *lumen in gentibus.* Boll. *in lucem gentibus . . . salus mea* [Is. xlix. 6] . . . *ultimum.*
- Rom. ii. 6. Conf. § 4. *Reddet unicuique secundum opera eius.* So R. *facta* ABCF₃F₄.
- Rom. viii. 16, Filii Dei. Rom. ix. 26, Filii Dei uiui. In Conf. § 59, *Filii Dei uiui et coheredes Christi* CF₃F₄. om. *uiui* Boll., prob. because it interrupts the citation from Rom. viii. 17.
- Rom. viii. 26. Conf. § 25. *Spiritus adiuuat infirmitatem nostram; nam quid oremus, sicut oportet, nescimus.* A, *infirmitates orationis nostrae, nam quod, &c.* Boll., *infirmitatem orationis nostrae; nam quid, and om. sicut op.* CF₃F₄R, *infirmitatem nostrae orationis num* [nam R] *quid, &c.*

- Rom. viii. 30. Ep. § 6. Quos autem prædestinauit hos et *vocauit*. So Boll.; *aduocauit* CF₁F₄.
- Rom. xi. 36. Conf. § 59. Ipsi gloria in sæcula, Amen. Boll. ins. *sæculorum* bef. *Amen*. This portion of the text is not in CF₄. F₁ does not contain any of it.
- Rom. xii. 15. Ep. § 15. *Flere* cum fletibus. So Boll. *Flere* CF₁F₄.
- 1 Cor. x. 28. Conf. § 19. Hoc *immolatum* est. So B. *immolaticum* A; *immolatiuum* CR; *immolatum* F₁F₄ corr.
- 2 Cor. iii. 2. Conf. § 11. *Scripta* in cordibus nostris. So rell. *scriptum* . . . *uestris* A.
- 2 Cor. xii. 15. Conf. § 53. *Impendam et superimpendar* ipse pro animabus uestris. *impendar* B; *impendat* CF₁; *impendam* F₄ corr.
- Phil. ii. 10, 11. Conf. § 4. Caelestium, *terrestrium* . . . et omnis lingua confiteatur quia Dominus Iesus Christus *in gloria est Dei Patris*. ACF₁F₄ ins. *et* bef. *terrestr.*; om. *terrestr.* R. For *et* BCF₁R read *ut*; A ins. *ei* bef. *quia*; ACF₁F₄R ins. *et Deus est* bef. *Iesus* [*Deus et Dom. est* R]; ACF₁F₄R om. *in gloria*, &c.
- 1 Thess. ii. 5. Conf. § 54. Neque . . . in sermone adulationis, sicut scitis, neque in *occasione* auaritiæ. For *occasio adulationis*, Conf. § 54, B reads *causa adulationis*.
- 2 Tim. iv. 16. Conf. § 26. Non illis *imputetur*. In Conf. Boll. CF₁F₄ have *non illis in peccatum reputetur*. R reads *deputetur*. This is possibly due to a recollection of Rom. iv. 23, where *d* reads *deputatum* in the clause, *Reputatum est illi ad iustitiam*.
- Titus iii. 5, 6. Conf. § 4. Lauacrum . . . renouationis *Spiritus Sancti* quem *effudit* in nos abunde. The allusion in Conf. runs thus in A: Et *effudit* in nobis habunde *Spiritum Sanctum*, donum, &c. Rell. have *infudit* . . . *Spiritus Sancti* donum, &c.
- 1 John iii. 14. Ep. § 9. Qui non diligit *manet in morte*. So Boll.; *in morte manet* CF₁F₄.
- 1 John iii. 16. Conf. § 24. Ille *animam suam pro nobis posuit*. A reads *Qui dedit animam suam pro te*. The order in rell. is *Pro te animam suam*. Boll. prefixes *dedit*. CF₁ add *posuit*. There is no verb supplied in F₁R.
- Rev. xxii. 15, xxi. 8, Ep. § 18. Foris canes et *uenefici* . . . et omnibus *mendacibus*, pars illorum erit, &c. B has *uenefici*; CF₁F₄* have *ueneficos*. B has *mendaces*—a change which makes the composite quotation read more smoothly.

It is impossible not to feel that in many of these cases the true

reading is not that of A. Take, for example, S. Matt. iv. 19, xii. 36, Titus iii. 5, 6, 1 John iii. 16. Nevertheless, until fuller evidence is forthcoming, it would be an arbitrary method of procedure to desert A in cases where it approximated to Jerome's Vulgate more than do the other mss. At the same time, it would be equally unfair to ignore the testimony of CF₃F₄ when discussing the character of St. Patrick's text of the Holy Scriptures.

It remains that I should give a list of the conjectural emendations, that are known to be such, which have been printed in the text of this edition. Where B is not available, and a reading of Boll. has been adopted, it is at least a charitable hypothesis that it is indeed a reading of B, yet a doubt must always remain on the mind, since Denis, as we have seen, preferred not to betray to the general public all the blemishes of his manuscript, as he conceived them to be.

Conf. § 9. *iura* for *iure*. This has been suggested to me by Dr. Gwynn. In any case the passage must be so translated.

Conf. § 10. *desortus*. So W. Stokes, except that he reads *disortus*. *desortus*, however, is both nearer ACF₃, and is in accordance with the usage of A, in which *disortus* and *desortum* interchange their first vowels.

Conf. § 10. *sermonem* for *sermons* ACF₃R, *sermonis* BF₄ corr. The horizontal bar above *e*, which would express *m*, is easily forgotten or obliterated. So present editor.

Conf. § 24. *effatus* for *efficiatus* A, *affatus* rell. So W. Stokes.

Conf. § 27. *Non illis in peccatum reputetur. Occasionem* post annos triginta inuenerunt. CF₃F₄R have *occasionum*; Boll. has, *reputetur occasio. Nam, &c.* All mss. ins. *me* after *inuenerunt*. The present editor thinks that there is a reference to Dan. vi. 5.

Conf. § 30. *dedicera*m for *dedidera*m A, *didicera*m rell. This has been suggested to me. A has *dedici* in § 9.

Conf. § 34. *aperuisti* for *cooperuisti* CF₃F₄, which yields no sense, and *denudasti* Boll. So present editor.

Conf. § 35. *me* ins. bef. *liberauit*. So Denis [me].

Conf. § 35. *idiotam tamen* for *ideo tamen* CF₃F₄. So present editor. The words are omitted in Boll., probably because they yielded no sense.

Conf. § 42. *patiuntur* for *patuntur* B, *patiantur* CF₃F₄. So Denis.

Conf. § 42. *illas* for *illae*. So Ware and Denis independently.

Conf. § 42. *etsi uoluntur* for *et siue tantum* BF₃ *siue tantum* CF₄. So Denis.

- Conf. § 51. *caperent* for *caperet*. So Denis.
 Conf. § 57. *scrutatur* for *scrutator* B, *scrutabor* CF₃F₄. So Denis.
 Conf. § 58. *contingat* for *contingunt*. So Ware.
 Conf. § 58. *ins. me* bef. *testem*. So Denis [me].
 Ep. § 11. *ins. dedit* bef. *in corde*. So Denis [dedit].

Note that of the eight emendations adopted from Boll., only three are acknowledged as such by Denis.

With the exception of the above seventeen conjectures, there is nothing printed in the text that has not ms. authority of some kind. The whole of the diplomatic evidence of A is presented either in the text or in the foot-notes. The eccentricities of the other mss. will be found in the Appendix. With these exceptions, the reading in the text is in every case that of the mss. whose variations are not recorded in the foot-notes.

HISTORICAL MATERIALS SUPPLIED BY THE LATIN WRITINGS OF ST. PATRICK.

Those who have attempted to construct a history of St. Patrick have too commonly approached the consideration of his Latin writings from a wrong point of view. They have consciously or unconsciously made Jocelin's twelfth-century *Life* their starting-point, and have in consequence read into the Confession matters which are not really there expressed, or even implied.

It does not fall within the scope of this edition of the *Libri S. Patricii* to discuss at length the facts of St. Patrick's life, or his place in the development of the Western Church. The sources of the ancient Lives are at present being investigated by Professors Gwynn and Bury; and until their conclusions as to the comparative value of the materials are fully known, it would be rash and uncritical for one who has not studied the subject very carefully to attempt to weave them into a consecutive narrative.

Nevertheless, the *Confessio* and *Epistola*, which are here presented to the student, are in fact the primary authorities available for a *Life* of St. Patrick; they form the only documentary evidence actually contemporary with the saint; and later authorities, if they can be shown to conflict with these, must be disregarded in such points of difference. This being so, it lies within the province of the present editor to bring together here the facts and inferences that may be gathered from these

writings, considered by themselves, without reference to any other document whatever. We shall endeavour to deal with them as if they were a recent find in some European library, and as if nothing had been hitherto known of the church-history of Ireland.

The first of these two documents is styled by the writer himself his Confession, in §§ 61, 62. *Breviter exponam uerba confessionis meae* *Hæc est confessio mea*; and the main purport of this *confessio* is summed up in the words, *Testificor* *quia numquam habui aliquam occasionem præter euangelium et promissa illius ut umquam redirem ad gentem illam unde prius uix euaseram*. "I testify that I never had any cause, except the Gospel and His promises, for ever returning to that nation from whence previously I scarcely escaped."

To return to Ireland and preach the Gospel there, was then the *uotum animas suas* to which he alludes in § 6, *Opto fratribus et cognatis meis scire qualitatem meam ut possint perspiciere uotum animas meas*, "I wish my brethren and kinsfolk to know what manner of man I am, that they may be able to understand the desire of my soul."

We gather from other statements why it was that this desire, which would seem to us a laudable one, should need any apology. His action was not only against the wish of his family, but also against that of "not a few of his elders" (§ 37). "Many," he says, "were forbidding this embassy and saying: 'Why does this fellow thrust himself into danger amongst enemies who have no knowledge of God?' It did not seem meet in their eyes on account of my rusticity" (§ 46). This *confessio* is then an *Apologia pro uita sua* rather than an autobiography; and we need only expect to find in it what seemed to Patrick the facts bearing immediately on his return to Ireland. But besides the vindication of his character and motives, Patrick informs us that he had also another object in writing, i.e. the natural desire to leave behind him something by which he might be remembered—a legacy to his brethren and spiritual children, to strengthen and confirm their faith (§§ 14, 47).

It is well to remember at the outset of our enquiry that the writer of the *Confessio* did not intend to give an account of his life; but he does incidentally give us some information about himself. He does not expressly state where he was born; but as his father owned a small farm near a town, *uicus*, named Bannavem Taberniae, and was, moreover a *decurio*, i.e. a town councillor, presumably of that town, we may safely assume that Patrick was born there. Bannavem Taberniae was certainly in Britain, since he twice speaks of Britain as

being the home of his family. *In Britannia eram cum parentibus meis* (Conf. 23). *Pergens in Brittanniis . . . quasi ad patriam et parentes* (Conf. 43).

Moreover, it seems probable that he was of British race. At least that is a plausible inference from the language he uses in Ep. §§ 2, 11, about Coroticus, who was most probably a North-British chieftain, *Non dico ciuibus meis neque ciuibus sanctorum Romanorum . . . Si mei me non cognoscunt*. He was ashamed, that is, to own Coroticus and his followers, as fellow-countrymen. They were "his own." Cf. S. John i. 11.

The father's name is variously spelt—Calpornus, Calpornius, Calpurnius. We have seen that he was a *decurio*, and possessed a *uillula*. We learn incidentally from Ep. 10 that he had a considerable establishment, *seruos et ancillas domus patris mei*. Patrick emphasizes more than once the fact that his father was in a good social position, *Darem ingenuitatem meam* (Conf. 37). *Ingenuus fui secundum carnem; uendidi . . . nobilitatem meam* (Ep. 10). Calpornus was also a deacon in the church, and his father again, Potitus, had been a presbyter. The obvious meaning of *Patrem habui Calpornum diaconum filium quendam Potiti presbyteri* is that Calpornus and Potitus were in Holy Orders when their children were born. Long after the enactments of Popes Siricius (A.D. 385), Innocent I. (A.D. 405), and Leo I. (A.D. 443), and the disciplinary canons of the Councils of Orange (A.D. 441) and of Tours (A.D. 461), the law of clerical celibacy was not strictly observed, even in places less remote than was Bannavem Taberniae. The remarkable thing about this statement is that it is made without any explanation, qualification, or apology. The writer is a bishop himself (Ep. 1); he fully appreciates the spiritual value of celibacy (Conf. 41, 42); he has not always lived on the confines of civilisation; he has spent some time in Gaul (Conf. 43); and after we have made every allowance for a son's reluctance to pass judgment on his father, it must be acknowledged that the incidental language of Patrick here indicates a date not later than the fifth century. The point is, not what was allowed or connived at in later times, but what was likely to be the character of public utterances by church dignitaries on the subject of clerical marriage.

As we have touched upon the question of the date of these writings, some other indications of the fifth century may here be noticed. In Ep. 14, the Franks are spoken of as heathen, *gentes*, who raided the Christians in Gaul. This points to a date anterior to A.D. 496, when the Franks with their King, Clovis, entered the Christian

Church. Moreover, the writer twice speaks of the Piets, or some of them, as apostates. Now the mission of Ninian to the Southern Piets began not later than A.D. 398, and possibly lasted until A.D. 432. Christian remains of an earlier date than Ninian are said to exist in Pictland (Ferguson, *Trans. R.I.A.*, vol. xxvii., p. 100. But see Bishop J. Dowden, *Proceedings of the Society of Antiquaries of Scotland*, 1897-98, p. 247, *sqq.*), so that this point cannot be pressed as necessarily proving that Patrick wrote after A.D. 398. Again, the trace of Roman organization implied in the term *decurio*, and the writer's constant use of *Britannias*, implying a knowledge of the Roman division of Britain into provinces, cannot fairly be urged as proof that he wrote before the Roman legions withdrew from Britain in A.D. 410. The Roman municipal institutions would no doubt survive for some time, even in the most disturbed districts, and this is still more true of the Roman nomenclature.

To resume, the name of the great-grandfather of Patrick, Odissus, is supplied in the margin of A. As regards his boyhood, it would be unreasonable to accept literally his self-depreciatory statements: "I knew not the true God," "I did not believe in the living God" (Conf. 1, 27). The prayers that he repeated in the land of his captivity, so fervently, and with an ever deepening sense of their meaning (*fides augebatur*, Conf. 16), must have been learnt at home; and he must also have commenced there the rudiments of other learning, for he tells us that his education had been interrupted by his captivity, "My sins prevented me from mastering what I had read through before" (Conf. 10). He does indeed allude to one definite act of sin committed when he was about fifteen years old (Conf. 27). His moral sensitiveness may be gauged from the fact that this so preyed on his mind, that he felt it necessary to confess it before taking Holy Orders. It was sufficiently pardonable for his confessor at the time not to consider it a bar to ordination, although at a later period the memory of it was revived with the object of effecting his ruin.

When Patrick was sixteen years of age, a raid was made by Irish pirates on the district in which he lived. That they were Irish is proved by Ep. 10, where, speaking of his ministry in Ireland, he asks, "Is it from me that springs that godly compassion which I exercise towards that nation, who once took me captive, and harried the menservants and maidservants of my father's house?" This passage, taken in conjunction with Conf. 1, "a small farm . . . where I was taken captive," justifies us in concluding that Patrick was at the farm when the raid took place, and that he and the farm servants

were carried off, but that his parents escaped. They may have been sheltered within the walls of Bannavem Taberniae. The language of Conf. 23, *Iterum . . . in Britannis eram cum parentibus meis qui me ut filium susceperunt* cannot be urged as proof that his father and mother were not killed on this occasion, since *parentes* might simply mean 'relatives,' and it probably has this meaning in Conf. 43, where he speaks of the possibility of seeing his *parentes* were he again to visit Britain. It is not likely that his father and mother were alive at the time that the Confession was written. The raid was on a large scale. Patrick reckons the captives by thousands, *tot milia hominum*—probably a natural exaggeration.

The man to whom Patrick became a slave employed him in tending flocks, *cotidis pecora pascebam* (Conf. 16); and in the solitude of this employment the germs of the love and fear of God, sown in childhood, soon developed. He would say as many as a hundred prayers in the day time, and nearly as many in the night. He would rise to his devotions before daybreak, even when he was out in the woods and on the mountains.

At last his special prayer was answered in two successive heavenly voices: *Thou fastest well, who art soon to go to thy fatherland*; and *Lo, thy ship is ready*. Patrick was now a young man of twenty-two, and he terminated his six years' servitude by flight. He tells us that the place where he found his ship was about two hundred miles distant from the scene of his captivity; but in what direction it lay, he does not say. On the one hand, some place on the east coast of Ireland obviously suggests itself as being near Britain. On the other hand, there is a passage, further on, which is most naturally explained by supposing that he fled westwards through Connaught. He tells us that, in the vision which determined his return to Ireland, *I thought I heard the voice of them who lived beside the wood of Fochlut, which is nigh unto the western sea* (Conf. 23). Now, at the time that this vision occurred he had not been in Ireland since his escape from captivity. How, then, did he know the name of the wood of Fochlut, or recognise the accent of the men who dwelt there? The testimony as to County Antrim having been the scene of his captivity is too strong to permit us to place it in County Mayo instead. Again, Patrick does not tell us how long he spent on the journey to his ship. Doubtless, he would delay as little as possible; but the mention of the hut in which he was being entertained before he accosted the sailors, proves that he had time to learn something of the country through which he passed. He tells us (Conf. 18) that when he was repulsed by the

master of the ship, *I left them to go to the hut where I was lodging.* There is no need to repeat here the details of the narrative. Patrick does not tell us to what nation the sailors belonged. He understood their language and they his, so probably they were Irish or British. He tells us that the reason he stayed with them was his hope that they might become Christians.

After a voyage of three days they reached land. What was this land? The heavenly voice had promised, *Cito iturus ad patriam tuam*, and so, if we had no other source of information, we should naturally suppose that Patrick intended to declare the fulfilment of that promise, and that the land was Britain. The only objection alleged to this is, that in § 23 an interval of a few years seems to be placed between this voyage and his return to Britain: *Et iterum post paucos annos in Britannia eram cum parentibus meis.* There does not seem to be much force in this objection. The words may mean, "I paid a *second* visit to Britain, after a few years"; but in any case the *Confessio* is not an autobiography; it is only concerned with the facts and visions that connected Patrick with Ireland. He does not tell us where he spent the *few years* that elapsed between his escape from the sailors and his meeting with his family. But we are anticipating.

Patrick does not tell us what the sailors had in view in this trip, whether plunder or trade. In any case they do not seem to have landed where they intended, for they had to journey for twenty-eight days before they reached their destination. According to the text of A, the providential encounter with the herd of swine occurred on the eighteenth day of their journey; according to the other mss., on the fourteenth day. The story is told confusedly. The parenthetical remark, *Et iterum post annos multos adhuc capturam dedi*, is best explained by a change of feeling towards Patrick on the part of the sailors. His strange behaviour on the night of the feast on pork—shouting *Helias*—may have determined them to treat him no longer as one of themselves, but as a captive.

The *annos multos* will then refer to the time that had elapsed—over six years—since his first captivity. This second period of slavery only lasted two months, when Patrick again made his escape. An interval of *a few years* now occurs (§ 23), and as they were not spent either in Ireland or Britain, it seems natural to suppose that Patrick escaped to Gaul, and in the shelter of some monastery prepared for Holy Orders. It seems to be implied, further on, that Gaul was the furthest limit of his travels. In § 45 he speaks of his longing to revisit Britain: *Non id solum, sed etiam usque ad Gallias visitare fratres*

ut uiderem faciem sanctorum Domini mei. It was during these few years, we must suppose, that Patrick acquired the knowledge of Holy Scripture which his writings display, and also made many friends, one of whom in particular, *amicissimus meus* (§§ 27, 32), was his confessor, and afterwards his bitterest opponent.

Patrick now returned once more to Britain, and visited his family. They begged him to stay with them, but there was a stronger counter-influence at work. Here in Britain came the definite call to work in Ireland, *Rogamus te, sancte puer, ut uenias et adhuc ambulas inter nos.* Though Patrick must have been not far from thirty, he was still in his dreams the holy youth whose fastings and prayers had excited the veneration of the heathen Irish.

After narrating this vision, Patrick exclaims : *Deo gratias, quia post plurimos annos præstitit illis Dominus secundum clamorem eorum.* We cannot fairly infer from this more than the fact that *many years* passed before Patrick preached in Connaught. It gives us no clue as to the interval that elapsed between his visit to his family and his landing in Ireland. There is, however, a note of time a little further on in § 27, where, speaking about the unfair attack made on him by the *seniores*, he says, *Occasionem post annos triginta inuenerunt, et aduersus uerbum, quod confessus fueram antequam essem diaconus.* This is most naturally explained to mean that as thirty years had passed since the commission of the sin which he had confessed, it was therefore ungenerous to revive the memory of it. The sin in question had occurred when Patrick was about fifteen years old; consequently he was forty-five when it was employed as a ground of accusation against him. We have seen that he cannot have been more than thirty at the time of the vision in which Victoricus appeared, and the call from Ireland came. The inference is a fair one, that some, if not the greater, portion of those fifteen years had been spent in evangelistic work in Ireland. It is not likely that he would resist the Divine summons for fifteen years. There was doubtless some delay. He tells us himself, *I did not proceed of my own accord to Ireland until I was almost worn out* (§ 28); worn out, that is, by the tearful pleadings of his family (§§ 23, 37), and by the somewhat scornful depreciation of his powers expressed by his ecclesiastical superiors, who thought it very presumptuous in so rustic and unlearned a man to attempt to initiate a mission amongst such savage heathens as were the Irish (§§ 37, 46). This two-fold opposition not unnaturally raised misgivings in Patrick's own mind : *I did not quickly assent in accordance with what had been shown to me, and as the Spirit brought to my remembrance . . . I did not know what . . .*

I should do about my position . . . I did not quickly recognise the grace that was then in me (§ 46).

This first opposition of the *seniores* Patrick acknowledges to have been quite devoid of malice, and this proves that it was in fact distinct in time from the attack of which he speaks in terms of great bitterness.

The question now arises, Was it from Britain or from Gaul that Patrick started on his first missionary journey to Ireland? On the one hand, it seems to have followed a visit to his family in Britain (§§ 23, 37); and the scene of the attack made on Patrick in his absence, namely, the occasion when his dearest friend took his part, was almost certainly Britain; for he says (§ 32), *I was not present on that occasion, nor was I in Britain*. As we should say, "Nor was I even in Britain." If we could accept the Bollandist reading *illic* for *illos neonon* in § 37, the matter would be decided in favour of Britain, as *patriam et parentes* occurs immediately before.

On the other hand, Gaul was almost certainly the nurse of his clerical studies. In § 43, when expressing his natural longing to revisit his old haunts:—while the attraction to Britain is that it was his fatherland, the home of his family, in Gaul he could visit his brethren, and see the face of the Lord's Saints.

Another question of some importance is, Had Patrick been raised to episcopal rank before he started on his first missionary journey to Ireland? or, to put the matter in a simpler form, Was the opposition of the *seniores*, that is mentioned in Conf. § 26, opposition to his being consecrated bishop, or an impeachment, on his return, of his conduct as missionary bishop in Ireland? The latter is the more probable alternative, if we take the words, *peccata mea contra laboriosum episcopatum meum* in their natural sense, i.e., that in the judgment of the *seniores*, Patrick's sins, past and present, more than counterbalanced his work in Ireland, *his laborious episcopate*. It would be unnatural to suppose that Patrick would describe his past *ministerium* in Ireland as a *laboriosus episcopatus*, if he had been merely a bishop designate. Moreover, Patrick does not say that on this occasion his promotion was at stake. It was rather his character. *Dominus . . . mihi subuenit in hac conculcatione quod in labem et in obprobrium non male deueni*. Again, he contrasts the conduct on this occasion of the man who had been his dearest friend, when he *publicly disgraced him* (§ 32), with his former friendliness when he had said, *Lo, thou art to be raised to the rank of bishop*.

We conclude then that Patrick was a bishop at all events when

he was about forty-five years of age. He does not tell us if he was sent as a bishop to Ireland, or if the occasion when he was impeached by the *seniores* was the only visit he had paid to his friends since he first set foot in Ireland as a missionary. It is possible that the person to whom he refers as *my dearest friend—amicissimus meus*—and who had been his confessor, actually consecrated him bishop, but where or when we cannot gather from Patrick himself.

It follows from what has been said that the terms of the *responsum diuinum* in § 29, *Male uidimus faciem designati* cannot mean, *We have seen with displeasure the face of the bishop designate*. That the Divine Voice as heard by Patrick was explicitly condemnatory of his friend, is proved by the opening words of Conf. 32. *But I am the rather grieved for my dearest friend, that we should have deserved to hear such an answer as that.*

In speaking of this crisis in his life, Patrick calls it (Conf. 32) *defensionem illam*—a plain allusion to the language of St. Paul when speaking of his trial for his life, *At my first answer no man stood with me—In prima mea defensione nemo affuit mihi*, 2 Tim. iv. 16. We gather that he was acquitted; but it is natural to suppose that this terrible experience determined him never to return again to Britain or Gaul. He seems to have taken a vow to this effect. At least this is suggested by his words in Ep. 10, *I am bound in the spirit not to see any one of my kinsfolk*. The same purpose is expressed in Conf. 43: *Christ the Lord commanded me to come and be with them for the remainder of my life*, cf. also Conf. 58, Ep. 1.

We have seen that Patrick was about forty-five years of age when he returned to Ireland for the last time. The only other notes of time in connexion with his personal history are those in Conf. 10 and Ep. 3. In the former, speaking of his pretensions as an author, he says, *Modo ipse adpeto in senectute mea quod in iuuentute non comparaui*; in the latter, describing his first attempt to negotiate with Coroticus, *Misi epistolam cum sancto presbytero quem ego ex infantia docui*.

It is evident that *senectus* may connote any age, from a little over forty upwards, according to the speaker's point of view, and the usage of his contemporaries. The passage in the Epistola is slightly more definite. There is nothing to prevent our supposing that this presbyter had accompanied Patrick from Gaul when he began his work in Ireland. He may have been ordained later. He had been very possibly a pupil at the school of the monastery in which we have supposed that Patrick found a shelter after his escape from the sailors.

Patrick was then about twenty-two or twenty-three years old. He could scarcely have been entrusted with the education, even in part, of a child before he had been himself a year under instruction; before, say, he was twenty-four. Again, *ex infantia* cannot be taken literally. The boy can scarcely have come under Patrick's tuition before the age of eight or nine; and if he had been ordained presbyter at the earliest possible age, we must conclude that Patrick was at least forty at the time of his writing the *Epistola*. This is the very lowest computation. He was, in all probability, considerably older. How much older we cannot say.

It remains to inquire, What light do these writings throw on the question of the first preaching of Christianity in Ireland, and on the nature and extent of the work accomplished by Patrick?

If we accept his statements without any qualification, we must suppose that Ireland was utterly heathen until his arrival as a Christian preacher. *Numquam notitiam Dei habuerunt nisi idula et immunda usque nunc semper coluerunt* (Conf. 41). Again, he represents those who opposed his attempt as describing the Irish as *hostes qui Deum non nouerunt* (Conf. 46). It may be noted that the expression *hostes* would be appropriate if a previous attempt to evangelise Ireland had been badly received by the natives. Moreover, Patrick certainly speaks of the establishment of a Christian Church in Ireland as a recent event, and implies that it was due to his efforts: e.g. *Iniqui dissipauerunt legem tuam, Domine, quam in supremis temporibus Hiberione optime et benigne plantauerat* (Ep. 5). [*Filii Dei*] *quos nuper adquisiuit in ultimis terras per exhortationem paruitatis nostrae*, Ep. 9. *Lupi rapaces deglutierunt gregem Domini qui utique Hiberione cum summa diligentia optime crescebat*, Ep. 12.

On the other hand, his language, when speaking of the range of his labours, is consistent with the supposition that the statements quoted refer only to the parts of Ireland evangelised by himself. For example, in Conf. 51: *Pergebam . . . ad exteras partes ubi nemo ultra erat, et ubi numquam aliquis peruenerat qui baptizaret, aut clericos ordinaret aut populum consummaret*. Cf. § 34. This language certainly permits us to suppose that there may have been not only Christian congregations, but an organised Christian Church, in those parts of Ireland more accessible to Britain and the continent of Europe than was the Wood of Fochlut, which is the only definite place mentioned by Patrick as having been visited by him (Conf. 23). Indeed, the whole tone of the *Confessio* implies that there were Christians in Ireland who took the same view of Patrick as did the *seniores* of Britain or of

Gaul. The writing is addressed to his Irish converts, and certainly suggests that they were likely to come in contact with persons who would detract from his merits.

On the other hand, Patrick speaks as if he were the only bishop in Ireland: *Hibernis constitutum episcopum me esse fateor* (Ep. 1); and claims to have ordained clergy *everywhere—ubique*—Conf. 38, 40, 50. He reckons his converts by *thousands, countless numbers*, Conf. 14, 38, 42, 50, Epp. 12, 16, and refers to his constant journeyings through the country (Conf. 51, 53). His was, indeed, a *laboriosus episcopatus* (Conf. 26); and the incident which called forth the Epistola was, no doubt, only one of the twelve perils whereby his life had been imperilled (Conf. 35). He refers to one other narrow escape from death at the hands of the heathen Irish (Conf. 52); and at the moment of writing the Confessio he declares: *Daily I expect either slaughter or to be defrauded, or be reduced to slavery, or an unfair attack of some kind*; and he even prays for martyrdom. *I pray Him to grant to me that I may shed my blood with those strangers and captives for His name's sake* (Conf. 55, 59). A man who can look on life so, will go far.

The only date in St. Patrick's history about which there is ever likely to be a general agreement amongst scholars is the year in which he died. Professor Bury has a long discussion in *The English Historical Review*, 1902, p. 239, sqq., of the statement by Tírechán, *A passiones autem Christi colleguntur anni cccc xxx ui usque ad mortem Patricii* (Book of Armagh, fol. 9, r^o, b). Professor Bury proves that Tírechán considered A.D. 29 as the year of the Passion, and emends Tírechán's text by reading xxxiii for xxxvi. This would make A.D. 461 the year of St. Patrick's death; and this is supported by the "Ultonian Annals."

BIBLICAL TEXT USED BY ST. PATRICK.

The number and wide range of quotations from the Holy Scriptures, direct and indirect, that are to be found in these two short tracts, give us reason to suspect that St. Patrick's *rusticitas* was not quite so great as his modesty represents it to have been. *Rude in speech* he certainly was, *but not in knowledge* of the Bible. Our purpose, however, at present is not to discuss St. Patrick's educational qualifications, but to sum up, as succinctly as possible, the evidence supplied by his Scriptural citations and allusions as to the character of the Biblical text used by him.

If it be asked, Do these writings bear any trace of St. Jerome's Vulgate? the answer must, in our present state of knowledge, be in the affirmative. But our assent must needs be a qualified one. The text of the *Confessio* and *Epistola* printed here is, after all, only relatively certain. In view of the occasional approximations of A to the Vulgate, as contrasted with CF₂F₄, and the fact that its evidence altogether fails us for the larger part of the work, it cannot be stated with absolute certainty that we know the very words that St. Patrick wrote. And again, the O. L. ms. evidence for the N. T., the Gospels excepted, is in truth so scanty and conflicting, that it seems precarious to assert of many renderings that they are undoubtedly Vulgate, when they may very possibly represent the O. L. text used by St. Jerome as the basis of his revision, and left unaltered by him.

With the possible exception of *sugere mammellas*, the reading of A in Conf. 18, there are no distinctively Vulgate citations from the O. T., while there are a considerable number of very remarkable purely O. L. ones. There is, indeed, a citation of Ps. xciv. 9 in Conf. 34, which is identical with the rendering in St. Jerome's Hebrew Psalter; but apparently *Hebrew* renderings are found in Cod. Veron., which is reckoned an O. L. codex. See, e.g., Conf. 5. If *sugere mammellas* is the true reading in Conf. 18, and if it can only be explained as a reference to Is. lx. 16, then it is unquestionably an instance of St. Patrick's use of St. Jerome's Vulgate; and, of course, even one such instance would necessarily affect our decision in doubtful cases. In deference to the opinion of scholars whose opinions carry weight, I have italicised these words as a Scriptural citation, but I am myself very doubtful of it: see note, pp. 287, 321.

There are two Gospel citations which may be plausibly claimed as Vulgate—(a) the quotation of S. Mark xvi. 15, 16 in Conf. 40, and (b) the allusion to S. John x. 16 in Ep. 11. I have given reasons in the note, p. 314, on the latter text, for believing the reference to be not necessarily Vulg. The quotation from S. Mark is certainly almost identical with the Vulgate, and quite unlike the three O. L. mss. that contain the verses. In this case the O. L. evidence is very scanty, and, on the other hand, the text is one which, from its familiarity and the nature of the context, we should expect a later copyist of the *Confessio* to assimilate to the Vulgate. However, as the case stands, the citation is a Vulgate one. With these two exceptions, the other Gospel citations in these tracts have O. L. support, even when they agree with the Vulg. Where the evidence is divided, St. Patrick's chief supporters are *q, f, ff, d, h*.

Passing on to the Acts, we have a number of short phrases which agree with the Vulg., and differ from the extant O. L. mss. (1) *Audenter dico*, ii. 29; (2) *Excitem . . . persecutionem*, xiii. 50; (3) *Alligatus spiritu*, xx. 22; (4) *Mihi protestatur*, xx. 23; (5) *Sed nihil horum uereor*, xx. 24; (6) *Lupi rapaces*, xx. 29; In (1) *d, e* conflict with *g, p*; in (2) *d, e, g* agree; in (3) *d* conflicts with *e, g*; in (4) *d, e, g* agree; in (5) *d, e, g* differ widely from each other; in (6) *d, e, g* agree. Thus, in three out of the six places the extant O. L. mss. give a most uncertain sound; and in (6), where they agree, it is most likely that St. Patrick was confusing Acts xx. 29 with the more familiar S. Matt. vii. 15, where *lupi rapaces* occurs. On the other hand, St. Patrick agrees with some form of O. L. in Acts i. 4; ii. 5; xiii. 47. It is at least possible that, in the above six places, and in many others in the Acts, the Vulgate reproduces the renderings of the O. L. text used by St. Jerome as the basis of his revision.

And the same theory has still more plausibility when we come to the Pauline Epistles. I have been warned by Mr. F. C. Burkitt that of the six mss. noticed in the list of abbreviations under Paul, only three, *d, e*, and *r* have a right to be reckoned as O. L. Of these *e* is a poor copy of *d*, and *r* is fragmentary. That means that we have only one continuous O. L. text for the Pauline Epistles. We have seen from the examples cited just now from the Acts, that there is no uniformity amongst O. L. mss. Is it not possible that, in the Pauline Epistles, where the Vulgate differs from *d*, it may often preserve O. L. renderings as distinguished from O. L. readings? There are some nine places in which St. Patrick's citations from the Pauline Epp. (incl. Hebrews) agree with the Vulgate against *d*, i.e. Rom. xiii. 9; 1 Cor. xv. 10; 2 Cor. iii. 2, 3; xi. 6; Phil. ii. 15; iv. 13; 2 Thess. ii. 15; Tit. iii. 5, 6; Heb. xii. 28. In every case but two, 2 Cor. xi. 6 and Heb. xii. 28, the Vulgate rendering is supported by pre-Hieronymian patristic citations quoted by Sabatier. One cannot, however, place any confidence in alleged patristic citations, unless in the case of writers whose works have been critically edited in quite recent times.

All this may possibly read like the special pleading of one who is contending for a theory of his own. I have no theory on the subject whatever, but am merely deprecating decisions based on insufficient evidence. Even if St. Patrick's use of St. Jerome's Vulgate was demonstrated, it would not be an argument against the date assigned to his death above, p. 230, i.e. A.D. 461. St. Patrick was not, as far as Biblical knowledge is concerned, a product of Ireland or Britain.

We have seen (p. 225) reason to believe that his theological training was acquired in Gaul, possibly South Gaul; and he would naturally use the Biblical text current there. If he had written more, we should doubtless be better able to explain the nature of his Biblical text. He has two readings (St. Matt. viii. 11; Phil. ii. 9) identical with those of Irenæus; three or four agreeing with Cyprian (Is. xlii. 25; xliii. 21; Ps. xlix. 15; St. John viii. 34); and one (Mal. iv. 2, 3) which is so exactly identical with the citation of the text as given by St. Augustine, that Prof. J. H. Bernard has suggested that it may be a citation from the *De Civitate Dei* rather than from the Bible. The remarkable doublet in Rom. viii. 26 (Conf. 25) is also found in a ms. of Visigothic origin; and the rendering of Rom. xiii. 9 (Ep. 9) is characteristic of Southern Gaul (Berger, *La Vulgate*, l.c.). It is to be hoped that some scholar who has a wide knowledge of O.L. and mixed Vulgate texts may, from the materials here supplied, construct an acceptable theory. The phenomena certainly are not inconsistent with the hypothesis that St. Patrick brought with him to Ireland a copy of the text current in Southern Gaul. Professor Lawlor (*Book of Mulling*, p. 134) sums up a very full discussion of the affinities of the Irish O.L. texts thus:—"The version upon which the Irish recension was founded, and from which its African, Italian, and *d* elements were derived, may have been imported from the region which gave birth to the text represented by *h*." But the extremely fragmentary nature of the extant Irish O.L. mss. (r_1, r_2, μ) renders it impossible to state positively what the relation of St. Patrick's text was to that subsequently current in Ireland.

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The Latin writings of St. Patrick are extant in the following editions:—

- (1.) *S. Patricio... adscripta Opuscula*: ... opera et studio Jacobi Waræi Equ. Aurati. 8°. Londini, 1666. This edition is professedly based on ACF₂F₄, but is very inaccurate. Beyond noting in the *Confessio* the portions not extant in A, there is no attempt to indicate the variants of the mss., which are also constantly ignored.
- (2.) The edition by Andreas Denis in the *Acta Sanctorum*, Martii, tom. ii., has been sufficiently discussed in the Introduction.
- (3.) *Rerum Hibernicarum Scriptores Veteres*, Auct. Carolo O'Conor, S.T.D. Buckinghamiæ, 1814, Tom. i., p. cvii; from C collated with A.
- (4.) *Irish Antiquarian Researches*, by Sir W. Betham. Dublin, 1827. Part II. of this contains the *Confessio* with the other Patrician documents in the Book of Armagh.

- (5.) *S. Patricii . . . Synodi, Canones, Opuscula, &c.*, scholiis illustrata a J. L. Villanueva. Dublinii, 1835. Villanueva prints the Bollandist text with variants from Ware.
- (6.) *Councils and Ecclesiastical Documents relating to Great Britain and Ireland*: Edited . . . by A. W. Haddan, B.D., and W. Stubbs, M.A., Oxford, 1878. Vol. ii., Part ii., p. 296.

This portion of the work was undertaken by Mr. A. Haddan; but he died five years before its publication. The plan adopted is to print A, where available, without any correction of its blunders, and elsewhere the Bollandist text. An elaborate collation is given of CF_3F_4 , and of the Bollandist text. The extraordinary number and nature of the positive misstatements in this *apparatus criticus* can only be explained by the supposition that Mr. Haddan's notes were misunderstood by the person who saw them through the press.

- (7.) *The Tripartite Life of Patrick*, with other documents relating to that Saint, edited by Whitley Stokes, D.C.L., &c. London, 1887, part ii., p. 367. Dr. W. Stokes prints A with corrections from C; and where A is not available, he prints C with interpolations and variations from the Bollandist text.

To the above seven editions of the Latin text must be added a Paper by Sir Samuel Ferguson, *On the Patrician Documents*, printed in vol. xxvii., *Poet. Lit. and Antiqq.*, *Trans. Royal Irish Academy*, 1885. This paper includes an admirable translation in blank verse of the *Confessio* and *Epistola* from the copies of A and F_3 , of the *Confessio*, printed in the Appendix to Part II. of the *Facsimiles of National MSS. of Ireland*, and from the Bollandist text of the *Epistola*.

The *Life of St. Patrick* by Muirchu maccu-Maotheni is contained partly in the *Book of Armagh* (cited here as Muirchu A) and partly in a ms. in the Royal Library of Brussels which was published in 1882 by the Rev. E. Hogan, s.j., in *Analecta Bollandiana*, Tom. i., p. 531. The portion of the *Life* which is only found in the Brussels ms. is cited here as Muirchu B.

The *Memoranda* of Tirechán are quoted from the *Book of Armagh*, fol. 9 r^o sqq.

The other *Lives*, except the *Tripartite Life* published by W. Stokes, are quoted from J. Colgan's *Triadis Thaumaturgæ . . . Acta*, 1647.

The *Dicta Patricii* are quoted from the *Book of Armagh*, fol. 9, r^o, a.

The *Hymns* of SS. Fiacc and Sechnall or Secundinus are quoted from *The Irish Liber Hymnorum*, edited for the Henry Bradshaw Society by J. H. Bernard and R. Atkinson. London, 1898.

St. Patrick, Apostle of Ireland, by J. H. Todd, D.D. Dublin, 1864.

The following articles by Professor J. B. Bury, of Cambridge:—

The Oldest Life of St. Patrick, *Guardian*, November 20 and November 27, 1901.

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The Tradition of Muirchu's Text, *Hermathena*, 1902.

The Itinerary of St. Patrick in Connaught, according to Tirechán, *Proceedings, Royal Irish Academy*, vol. xxiv., sec. c, pt. 3, 1903.

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CONFESSIO.

INCIPIUNT LIBRI SANCTI PATRICII EPISCOPI.¹

1. Ego Patricius peccator, rusticissimus et minimus omnium fidelium et contemptibilis sum² apud plurimos.

Patrem habui Calpornum³ diaconum filium quendam⁴ Potiti⁵ presbyteri qui fuit⁶ uico Bannauem⁷ Taberniae. Uillulam⁸ enim prope⁹ habuit, ubi ego capturam dedi.⁹

Annorum eram tunc fere xui.¹⁰ Deum¹¹ uerum ignorabam, et Hiberione in captiuitate adductus sum, cum tot milia¹² hominum, secundum merita nostra, quia *a Deo recessimus et praecepta eius non custodiuimus*, et sacerdotibus nostris non oboedientes¹³ fuimus qui¹⁰ nostram salutem admonebant. Et Dominus *induxit super nos iram animationis*¹⁴ *suae et dispersit nos*¹⁵ *in gentibus multis etiam usque*¹⁶ *ad ultimum terrae* ubi nunc paruitas mea esse uidetur¹⁷ inter alienigenas.¹⁸

2. Et ibi¹⁹ Dominus *aperuit sensum*²⁰ incredulitatis meae²¹ ut²² uel sero rememorarem²³ dilicta mea et²⁴ ut *conuerterem*²⁵ *toto corde* ad¹⁵ Dominum Deum²⁶ meum qui *respexit humilitatem* meam et missertus est²⁷ adoliscetiae²⁸ ignorantiae meae, et custodiuit me antequam

¹ Incipit Confessio Sancti Patricii Episcopi CF₃F₄ (Confesio . . Patrici F₃) add Q: ÷ xvi Kt Apt F₃; add xvi Kt Aprili F₄; Incipit uita Beati Patricii B; no title in R. ² contemptibilissimus *rell.* ³ Calpornium F₃R; Calpornium BCF₄. ⁴ quondam *rell.* (quondam filium R). ⁵ *ins.* filii Odiasi A^{ms}.

⁶ *ins.* in CF₄. ⁷ Bannauem *rell.* ⁸ uillam B. ⁹ didici B. ¹⁰ quindecim R. ¹¹ *ins.* enim *rell.* ¹² milibus F₄ *corr.* ¹³ inobedientes *rell.*

¹⁴ indignationis B. ¹⁵ iram—nos *om.* C. ¹⁶ *om.* usque R. ¹⁷ uidetur esse *rell.* ¹⁸ alienigenas BCF₄R; alienienas F₃. ¹⁹ ubi *rell.* ²⁰ sensus CF₃F₄R. ²¹ sens. cordis mei (mee F₄) *incred. rell.* ²² *om.* ut B.

²³ For uel—remem., aerorem orarem A *with x in marg.* ²⁴ *om.* et A. ²⁵ confirmarem A; conuerterer CF₃F₄R. ²⁶ *om.* Deum *rell.* ²⁷ *om.* est BF₃R.

²⁸ *ins.* et B; adol. mee et ignorantie CF₃F₄R.

1. Es. 69, 13; Exod. 20, 6; Es. 42, 25; Jer. 9, 16; Act. 13, 47.
2. Luc. 24, 45; Joel 2, 12; Luc. 1, 48.

scirem eum et antequam saperem uel distinguerem inter bonum et malum et muniuit¹ me et consulatus est me² ut pater filium.

3. Unde autem³ tacere non possum, neque expedit quidem,⁴ tanta beneficia et tantam gratiam quam⁵ mihi Dominus praestare⁶ dignatus est⁷ in *terra captiuitatis meae*; quia haec est *retributio*⁸ nostra ut post correptionem⁹ uel *agnitionem Dei* exaltare et *confiteri*¹⁰ *mirabilia eius* coram *omni natione quas est*¹¹ *sub omni*¹² *caelo*.¹³

4. Quia non est alius¹⁴ Deus nec umquam fuit nec ante¹⁵ nec erit post haec¹⁶ praeter Deum Patrem ingenitum, sine principio, a quo est omne principium,¹⁷ omnia tenentem¹⁸ ut dicimus¹⁹, et eius²⁰ Filium Iesum Christum, qui²¹ cum Patre scilicet semper fuisse²² testatur ante originem saeculi spiritaliter apud Patrem inenarrabiliter²³ genitum ante omne principium. Et²⁴ *per ipsum*²⁵ *facta sunt*²⁶ *uisibilia et inuisibilia*,²⁷ hominem factum,²⁸ morte deuicta²⁹ in caelis ad Patrem receptum.³⁰ Et *dedit illi omnem potestatem super omne nomen caelestium et*³¹ *terrestrium et infernorum, et*³² *omnis lingua confiteatur ei*³³ *quia Dominus et Deus*³⁴ *est Iesus Christus*³⁵ quem credimus. Et expectamus³⁶ aduentum ipsius³⁷ mox futurum³⁸ iudex³⁹ uiuorum atque mortuorum, *Qui reddet unicuique secundum facta*⁴⁰ *sua*. Et *effudit*⁴¹ *in nobis*⁴² *habunde Spiritum Sanctum*,⁴³ *donum et pignus* immortalitatis, qui facit credentes et oboedientes ut sint *filii Dei*⁴⁴ et *coheredes Christi*,⁴⁵ quem confitemur et adoramus unum Deum⁴⁶ in Trinitate sacri⁴⁷ nominis.

5. Ipse enim dixit per profetam, *Inuoca me in die tribulationis tuae et liberabo te et magnificabis me*. Et iterum inquit, *Opera autem*⁴⁸ *Dei reuelare et confiteri honorificum est*.

¹ monuit *rell.*

² mei A.

³ ego quidem B; autem c. *punct. del.* A.

⁴ om. quidem B. ⁵ quæ R. ⁶ om. Dom. praest. A. ⁷ om. est A. ⁸ ins. mea

c. *punct. del.* A. ⁹ correctionem F₄ corr. B; add nostram R. ¹⁰ exaltaremur et

confiteremur *rell.* ¹¹ om. est B; R *def.* ¹² om. omni BR. ¹³ ins. est B.

¹⁴ Non enim alius est B. ¹⁵ om. nec ante CF₃F₄R. ¹⁶ hunc *rell.* ¹⁷ om. omnia

— principium. Et B. ¹⁸ tenens F₃. ¹⁹ diximus F₃R. ²⁰ huius *rell.*

(B *def.*). ²¹ quem *rell.* (B *def.*). ²² fuisse semper CF₃F₄; fu. test. semp.

R (B *def.*). ²³ inerrabiliter A. ²⁴ om. Et *rell.* ²⁵ ins.

quippe B. ²⁶ ins. omnia B. ²⁷ om. et inuis. A. ²⁸ homo factus F₃.

²⁹ deuicta morte *rell.* ³⁰ om. ad Pat. rec. A; receptus F₃; rec. ad Pat. R.

³¹ om. et B; om. et terrestrium R. ³² ut BCF₄R. ³³ om. ei *rell.* ³⁴ Deus

et Dominus R; om. et Deus est B. ³⁵ ins. in gloria est Dei Patris B.

³⁶ exspectamus A. ³⁷ om. ipsius A. ³⁸ futurus F₄ corr. ³⁹ iudicem B;

ins. futurus R (at end of line, in marg.). ⁴⁰ opera R. ⁴¹ infudit *rell.*

⁴² uobis A. ⁴³ Spiritus Sancti *rell.* ⁴⁴ ins. Patris *rell.* ⁴⁵ om. et coh.

Chr. B. ⁴⁶ unum Deum ador. B. ⁴⁷ sacrosancti B. ⁴⁸ A has autem *scrip. over.*

3. 2 Par. 6, 37; Ps. 115, 12; Col. 2, 2; Ps. 88, 6; Act. 2, 5. 4. Col. 1, 16; Marc. 16, 19; Phil. 2, 9; Rom. 2, 6; Tit. 3, 6; Act. 2, 38; 2 Cor. 1, 22; Rom. 8, 16. 5. Ps. 49, 15; Tob. 12, 7.

6. Tamen etsi in multis imperfectus sum opto fratribus et cognatis meis¹ scire qualitatem meam² ut possint perspicere³ uotum animae meae.

7. Non⁴ ignoro *testimonium Domini* mei qui in psalmo⁵ testatur, *Perdes eos⁶ qui loquuntur mendacium.* Et iterum inquit,⁷ *Os quod⁸ mentitur occidit animam.* Et idem Dominus in euangelio inquit,⁹ *Verbum otiosum quod locuti fuerint homines reddent rationem de eo¹⁰ in die iudicii.*

8. Unde autem¹¹ uehementer debueram¹² *cum timore et tremore* metuere hanc sententiam in die illa ubi nemo se poterit¹³ subtrahere¹⁰ uel abscondere, sed omnes omnino reddaturi sumus *rationem* etiam minimorum peccatorum¹⁴ *ante tribunal Domini Christi.*¹⁵

9. Quapropter olim cogitavi scribere, sed et¹⁶ usque nunc hessitavi; timui enim ne incederem¹⁷ in¹⁸ linguam hominum,¹⁹ quia non dedici²⁰ sicut et²¹ caeteri qui optime itaque²² iura²³ et sacras literas utraque²⁴ 15 pari modo combiberunt, et sermones²⁵ illorum ex infantia numquam motarunt,²⁶ sed magis ad perfectum semper addiderunt. Nam *sermo et loquela*²⁷ nostra translata est in linguam alienam, sicut²⁸ facile potest probari²⁹ ex salua³⁰ scripturae meae, qualiter sum ego³¹ in sermonibus instructus atque eruditus; quia inquit Sapiens, *Per linguam³² dinoscetur³³ et³⁴ sensus et scientia et doctrina ueritatis.*³⁴

10. Sed quid³⁵ prodest excussatio iuxta ueritatem, praesertim cum praesumptione? quatinus³⁶ modo ipse adpeto in senectute mea³⁷ quod in iuuentute non conparaui; quod³⁸ obstiterunt³⁹ peccata mea⁴⁰ ut confirmarem quod⁴¹ ante⁴² perlegeram.⁴³ Sed⁴⁴ quis me credit⁴⁵ etsi 25 dixero quod ante praefatus sum?

¹ cognatis meis A; fratres et cognatos meos CF₃F₄R.

² ins. et *rell.*

³ perficere A; R *def.*

⁴ ins. enim B.

⁵ psalmo A.

⁶ omnes BR,

perdes qui C.

⁷ om. inquit *rell.*

⁸ qui R.

⁹ om. in eu. inq. A; om. inquit R.

¹⁰ de eo rat. R.; pro eo rationem BCF₃F₄.

¹¹ ego deberem B.

¹² om. debueram

AB.

¹³ poterit se *rell.*

¹⁴ ins. nostrorum B.

¹⁵ Christi Domini CF₃F₄R;

Domini nostri Iesu Christi B.

¹⁶ om. et *rell.*

¹⁷ incederem R.

¹⁸ om. in *rell.*

¹⁹ ins. et *rell.*

²⁰ legi *rell.*

²¹ om. et *rell.*

²² For itaque—illorum,

B *has*, sacris litteris imbuti sunt, et studium suum; A *has in marg.*, z incertus liber hic *and dots after comb.*

²³ So J. Gwynn; iure mss.

²⁴ utroque A.

²⁵ sermonem CF₃F₄R.

²⁶ mutauerunt *rell.*

²⁷ lingua B.

²⁸ sed B.

²⁹ probare B.

³⁰ exaluae A *with z writ over and z in marg.*; ex saluae B.

³¹ ego sum B.

³² om. in *rell.*

³³ dinoscitur *rell.*

³⁴ om. et B.

³⁵ uarietatis CF₃F₄R.

³⁶ om. quid *rell.*

³⁷ ut B.

³⁸ om. mea—inuentute C.

³⁹ quia CF₃F₄R; om. B.

⁴⁰ ins. enim B.

⁴¹ om. peccata mea A.

⁴² quodque *rell.*

⁴³ ins. non *rell.*

⁴⁴ legeram R.

⁴⁵ ins. si A.

⁴⁶ credidit A.

6. Luc. 21, 16. 7. 2 Tim. 1, 8; Ps. 5, 7; Sap. 1, 11; Matt. 12, 36.

8. Eph. 6, 5; Rom. 14, 10, 12. 9. Joh. 8, 43; Sir. 4, 29.

Adolescens, immo pene puer in uerbis capturam dedi,¹ antequam scirem quid peterem uel² quid adpeterem uel quid uitare³ debueram. Unde ergo hodie erubesco et uehementer⁴ pertimeo⁵ denudare imperitiam meam, quia non⁶ desertus⁷ breuitate sermonem⁸ explicare nequeo. Sicut enim Spiritus gestit⁹ et animas¹⁰ et sensus monstrat¹¹ adfectus.¹²

11. Sed si itaque datum mihi¹³ fuisset sicut et¹⁴ caeteris, uerumtamen non silerem *propter retributionem*. Et si forte uidetur¹⁵ apud aliquantos me in hoc praeponere cum mea inscientia et *tardiori lingua*, sed¹⁶ scriptum est,¹⁷ *Linguae¹⁸ balbutientes uelociter discent loqui¹⁹ pacem*.
10 Quanto magis nos adpetere debemus qui sumus, inquit,²⁰ *aepistola Christi, in salutem*,²¹ *usque ad ultimum terrae*, etsi non deserta, sed ratum²² fortissimum²³ scriptum²⁴ *in cordibus uestris*,²⁵ *non atramento sed Spiritu Dei uiui*. Et²⁶ iterum Spiritus testatur, *Et rusticationem²⁷ ab Altissimo creata est*.²⁸

15 12. Unde ego²⁹ primus rusticus, profuga, inductus scilicet qui nescio in posterum prouidere,³⁰ sed illud scio³¹ certissime quia utique *priusquam humiliarer*, ego eram uelut lapis qui iacet in *luto profundo*; et uenit³² *qui potens est*, et in sua missericordia sustulit me, et quidem scilicet sursum adleuauit et collocauit me in summo pariete.³³

20 Et inde fortiter³⁴ debueram exclamare ad *retribuendum*³⁵ quoque *aliquid Domino* pro tantis beneficiis eius, hic et in aeternum, quae mens hominum³⁶ aestimare non potest.

13. Unde autem ammiramini³⁷ *magni et pusilli qui³⁸ timetis Deum*, et uos dominicati³⁹ rethorici audite⁴⁰ et scrutamini. Quis⁴¹ me stultum
25 excitauit de medio eorum qui uidentur esse sapientes⁴² et legis⁴³ periti et *potentes in sermone* et in omni re? Et me quidem detestabilem⁴⁴

¹ didici B. ² om. quid peterem uel. *rell.* ³ inuitare R. ⁴ ins. ualde B; R *def.*

⁵ protimeo A; pertimesco B; R *def.*; ins. palam B. ⁶ om. non *rell.* ⁷ So

W. Stokes; non possum de desertis A *with z in marg.*; disertis BF₄R; desertis CF₃.

⁸ So N. J. D. White; sermonis BF₄ *corr.*; sermone ACF₃R. ⁹ gessit CF₃F₄R.

¹⁰ animus *rell.* ¹¹ monstrare F₃; ins. et B. ¹² effectus R. ¹³ michi datum B.

¹⁴ om. et F₄R. ¹⁵ uideatur R. ¹⁶ ins. etiam *rell.* ¹⁷ ins. enim BCF₃F₄

(*writ over*). ¹⁸ ins. et F₃.^{*} ¹⁹ loqui discent B. ²⁰ nos A. ²¹ om. in sal. B.

²² raptum R; rata F₄ *corr.*; ins. et *rell.*; A *has z in marg.* ²³ fortissime F₄ *corr.*

²⁴ scripta *rell.* ²⁵ nostris *rell.* ²⁶ om. et-testatur B. ²⁷ rusticatio *rell.*; A

has z in marg. ²⁸ ins. teste eodem Spiritu Dei uiui B. ²⁹ ergo CF₃R.

³⁰ prouidere B. ³¹ scio illud CF₃F₄R; om. scio B. ³² ueniens A^{*}. ³³ in sua

parte A. ³⁴ forte B. ³⁵ So F₄ *corr.*; retribuendam *ms.* ³⁶ humana B.

³⁷ ins. itaque *rell.*; R *def.* ³⁸ et uos dominicati qui timetis Deum. . reth. &c., A.

³⁹ domni CF₃F₄; domini BR; ins. ignari *rell.* ⁴⁰ ins. ergo *rell.* ⁴¹ qui R.

⁴² sapientes esse BCF₃F₄. ⁴³ leges A. ⁴⁴ detestabilis A.

11. Ps. 118, 112; Exod. 4, 10; Es. 32, 4; 2 Cor. 3, 2; Act. 13, 47; Sir. 7, 16.

12. Ps. 118, 67; Ps. 68, 14; Luc. 1, 49; Ps. 115, 12. 13. Apoc. 19, 5; Act. 7, 22.

huius mundi prae¹ caeteris inspirauit, si talis essem; dummodo autem ut cum metu et reuerantia et sine querella fideliter prodessem² genti ad quam caritas Christi transtulit et³ donauit me, in uita mea, si dignus⁴ fuero, denique ut cum humilitate et ueraciter deseruirem illis.

14. In mensura itaque fidei Trinitatis oportet distinguere, sine repre-⁵ hensione periculi notum facere donum Dei et consolationem aeternam, sine timore fiducialiter Dei nomen⁶ ubique expandere ut etiam post obitum meum exagallias⁷ relinquere⁸ fratribus et filiis meis quos in Domino ego baptizauī,⁹ tot milia hominum.

15. Et non eram¹⁰ dignus neque talis ut hoc Dominus seruulo suo 10 concederet post erumpnas et tantas moles,¹¹ post captiuitatem, post annos multos, in gentem illam¹² tantam gratiam mihi donaret, quod ego aliquando¹³ in iuuentute mea numquam sperauī¹⁴ neque cogitauī.

16. Sed postquam Hiberione¹⁵ deueneram, cotidie itaque¹⁶ pecora pascebam, et frequens¹⁷ in die orabam; magis¹⁸ ac magis accedebat 15 amor¹⁹ Dei et timor ipsius,²⁰ et fides augebatur et spiritus agebatur,²¹ ut in die una usque ad centum orationes et in nocte prope similiter, ut²² etiam in siluis et²³ monte manebam.²⁴ Ante lucem excitabar²⁵ ad orationem per niuem per gelu per pluuiam²⁶; et nihil mali sentiebam,²⁷ neque ulla pigritia erat in me, sicut modo uideo, quia tunc spiritus in 20 me²⁸ seruebat.

17. Et ibi scilicet quadam²⁹ nocte in somno audiui uocem dicentem³⁰ mihi, Bene ieiunas, cito³¹ iturus ad patriam tuam.³² Et iterum³³ post paululum tempus audiui responsum³⁴ dicentem³⁵ mihi, Ecce nauis tua parata est. Et non³⁶ erat prope, sed forte habebat 25 'cc' milia passus. Et ibi numquam fueram, nec ibi notum quemquam de hominibus habebam.³⁷ Et deinde postmodum conuersus sum

¹ de A°. ² om. prodessem A. ³ ut CF₃F₄*R. ⁴ uiuus A°. ⁵ ins. nomine CF₃ (nomone) F₄. ⁶ A has in marg., incertus liber, and z with ~ over g; exgallias BCF₃; ex gallicis F₄ corr.; gallias R. ⁷ relinquerē F₄ corr. ⁸ ego in Domino baptizauī BCF₃R; ego bapt. in Dom. F₄. ⁹ etiam CF₃F₄R. ¹⁰ tante molis rel. ¹¹ magnam R. ¹² aliquando ego B. ¹³ For numq. sper., non quia desperauī rel. ¹⁴ Hiberionem R. ¹⁵ igitur rel. ¹⁶ frequent F₄ corr. ¹⁷ magisque B. ¹⁸ timor BF₃F₄R. ¹⁹ illius rel. (F₃ illis). ²⁰ augebatur F₃. ²¹ et B; ut et R. ²² ins. in rel. ²³ ins. et rel. ²⁴ exercitabar CF₃F₄R. ²⁵ pluuiam per gelu R. ²⁶ om. sentiebam B. ²⁷ in me spiritus rel. ²⁸ quidam C. ²⁹ ins. sib A c. punct. del. ³⁰ ins. ieiunans A c. punct. del. ³¹ ins. et terram rel. ³² om. iterum rel.; R def. ³³ resp. aud. B. ³⁴ dicens F₄ corr. ³⁵ om. non BCF₃F₄; R def. ³⁶ hab. quemq. de hom. CF₃F₄R quemq. hab. de hom. B.

13. Heb. 12, 28; 1 Thess. 2, 10; 2 Cor. 5, 14. 14. Rom. 12, 3; Phil. 2, 15; Joh. 4, 10; 2 Thess. 2, 15; 2 Pet. 1, 15. 16. Act. 18, 25. 17. Rom. 11, 4.

in fugam, et intermissi hominem cum quo¹ fueram .ui. annis²; et ueni in uirtute Dei qui *uiam meam* ad bonum *dirigebat*,³ et nihil⁴ metuebam donec⁵ perueni ad nauem illam.

18. Et illa die⁷ qua⁸ perueni profecta est nauis de loco suo. Et locutus sum ut haberem⁹ unde¹⁰ nauigare¹¹ cum illis; et¹² gubernatori displicuit illi,¹³ et acriter cum indignatione¹⁴ respondit, Nequaquam tu nobiscum adpetes¹⁵ ire.

Et cum haec audissem sepeperi me ab illis ut¹⁶ uenirem ad tegoriorium¹⁷ ubi¹⁸ hospitabam; et in itinere caepi orare; et antequam orationem consummare audiui unum ex¹⁹ illis, et²⁰ fortiter exclamabat²¹ post me, Ueni cito quia uocant te homines isti; et statim ad illos reuersus²² sum.

Et coeperunt mihi dicere,²³ Ueni, quia ex fide recipimus²⁴ te.²⁵ Fac nobiscum amicitiam quomodo uolueris. Et in²⁶ illa die itaque²⁷ reppuli *sugere mammellas* eorum²⁸ propter timorem²⁹ Dei, sed³⁰ uerumtamen ab illis speraui³¹ uenire in fidem³² Iesu³³ Christi, quia gentes erant, et ob³⁴ hoc obtinui³⁵ cum illis, et protinus nauigauimus.³⁶

19. Et post triduum terram caepimus, et xxiii³⁷ dies per disertum iter fecimus, et cibus defuit illis³⁸ et fames *inualluit super*³⁹ eos.⁴⁰ Et alio⁴¹ die coepit gubernator mihi⁴² dicere, Quid,⁴³ Christiane, tu dicis? Deus tuus magnus et omnipotens est⁴⁴; quare ergo pro nobis orare non potes⁴⁵ quia nos⁴⁶ a⁴⁷ fame periclitamur; difficile est⁴⁸ enim umquam ut aliquem hominem⁴⁹ uideamus. Ego enim⁵⁰ euidenter

¹ om. quo A. ² annis sex *rell.*; R *def.* ³ et in uirtute Dei ueni ad bonum qui uiam meam dir. B. ⁴ For et nihil, ex nihilo CF₄; R *def.* ⁵ om. donec F₃.
⁶ Et mox cum perueni ad eam profecta est de loco suo B. ⁷ om. die CF₃F₄R.
⁸ ad quam F₄ *corr.*; om. qua R. ⁹ abirem A. ¹⁰ inde BCF₃R; unde AF₄.
¹¹ nauigare *rell.* ¹² For et—illi, gubernatori autem displicuit B. ¹³ om. illi BF₄ *corr.* ¹⁴ interrogatione A*; indignationem R. ¹⁵ adpetas *rell.*
¹⁶ et ut BR; ut et CF₃ *corr.* F₄. ¹⁷ tuguriorium *rell.*; om. ad F₄. ¹⁸ ibi F₄.
¹⁹ clamare ex illis fortiter, R. ²⁰ om. et *rell.* ²¹ exclamare BF₃; exclamantem F₄ *corr.* ²² reuersuru R (*end of word def.*). ²³ dicere mihi R. ²⁴ recepimus *rell.* ²⁵ ins. et *rell.* ²⁶ om. in R. ²⁷ om. itaque B.
²⁸ repulsus sum fugere amicitias illorum CF₄; repulis fugire mammas illorum F₃R; reppuli sugere mammas eorum B. ²⁹ om. timorem B; R *def.* ³⁰ om. sed F₄ *corr.* ³¹ sper. ab illis *rell.* ³² For uenire—fid., ut mihi dicerent, Ueni in fide, *rell.* ³³ om. Iesu B; R *def.* ³⁴ om. ob *rell.* ³⁵ obtinuit, BR.
³⁶ om. et—nau. A. ³⁷ uiginti et septem. *rell.*; om. et F₃. ³⁸ cibus autem et potus defecit nobis B. ³⁹ in R. ⁴⁰ nos B. ⁴¹ alia *rell.*
⁴² michi gub. R. ⁴³ ins. est *rell.* ⁴⁴ est et omnip. R. ⁴⁵ non pot. pro nob. orare *rell.*; add ora pro nobis B. ⁴⁶ om. nos B. ⁴⁷ om. a BRF₄ *corr.*
⁴⁸ om. est AF₃R. ⁴⁹ ut al. hom. umq. *rell.* ⁵⁰ uero B.

dixi illis, *Conuertimini ex fide et ex toto corde¹ ad Dominum Deum meum cui nihil est impossibile,² ut hodie³ cibum mittat uobis⁴ in uiam uestram usque dum satiamini,⁵ quia ubique habundat illi.*

Et⁶ adiuuante⁷ Deo ita factum est. Ecce grex porcorum in uia⁸ ante oculos nostros apparuit,⁹ et multos ex illis interfecerunt et ibi¹⁰ 5 .ii. noctes¹¹ manserunt; et¹² bene refecti, et canes¹³ eorum repleti¹⁴ sunt, quia multi ex illis¹⁵ defecerunt et¹⁶ secus uiam seminiui relict¹⁷ sunt.

Et post haec¹⁸ summas gratias egerunt Deo, et ego honorificatus sum sub oculis eorum, et¹⁹ ex hac die abundanter cibum habuerunt. 10 Etiam *mel siluistre* inuenierunt,²⁰ et mihi *partem obtulerunt*. Et unus ex illis dixit, *Hoc immolaticium²¹ est*. Deo gratias, exinde nihil gustauit.

20. Eadem uero nocte²² eram dormiens, et fortiter temptauit me²³ Satanas, quod²⁴ memor ero *quandiu fuero²⁵ in hoc corpore*. Et cecidit 15 super me ueluti saxum ingens,²⁶ et nihil membrorum meorum²⁷ praeualui.²⁸ Sed unde mihi²⁹ uenit³⁰ in³¹ spiritum³² ut³³ Heliam uocarem?³⁴ Et in hoc³⁵ uidi in caelum³⁶ solem oriri, et dum clamarem³⁷ Heliam, Heliam,³⁸ uiribus meis³⁹ ecce splendor solis illius decedit⁴⁰ super me, et statim discussit a me omnem⁴¹ grauitudinem.⁴² Et credo quod a 20 Christo Domino⁴³ meo subuentus⁴⁴ sum, et Spiritus eius iam tunc clamabat⁴⁵ pro me. Et spero⁴⁶ quod sic erit *in die pressurae* meae, sicut in euangelio inquit: *In⁴⁷ illa die*, Dominus testatur, *Non*

¹ om. ex fide et B; om. et F₃R; om. et—corde A; add uestro R. ² quia n. e. illi in p. *rell.* (imp. illi B). ³ om. hodie A. ⁴ mit. uob. cib. B; mit. cib. R; nobis F₃R. ⁵ satiemiini *rell.* ⁶ om. et *rell.* ⁷ adiuvante A; ins. ergo B.

⁸ ins. ueniebat B. ⁹ om. apparuit *rell.* ¹⁰ ubi R. ¹¹ noctes duas B. ¹² om. et *rell.* ¹³ carnes CF₄*; carne F₄ *corr.* ¹⁴ releuati CF₄; reuelati BF₃R. ¹⁵ eis F₄. ¹⁶ om. def. et A. ¹⁷ derelicti *rell.* ¹⁸ hoc *rell.*

¹⁹ om. et—habuerunt A; ex illa autem die cib. habund. hab. Sed B. ²⁰ inueniunt BCF₃F₄; deinuene R. ²¹ om. Hoc A; immolatum F₃F₄ *corr.* immolatum B; immolaticium CR (inmo. R). ²² om. nocte A. ²³ me tempt. R. ²⁴ cuius F₄ *corr.*

²⁵ fuero CF₃R; fuero F₄ *corr.* ²⁶ saxa ingentia *rell.* ¶ B breaks off. ²⁷ om. meorum A. ²⁸ praeualens A. ²⁹ om. mihi *Boll.*; me CF₃F₄*R. ³⁰ ins. ignoro *Boll.* F₄ *corr.*; ins. ignarum CF₃R. ³¹ et F₃R; ut *Boll.* ³² spiritu *rell.* ³³ om. ut *rell.* ³⁴ inuocarem *Boll.*; uocare F₄ *corr.* ³⁵ inter haec *rell.*

³⁶ caelo *rell.*; solem in celo R. ³⁷ clamabam CF₃F₄R. ³⁸ om. Heliam (2) A; add totis *Boll.* ³⁹ ins. et F₃R. ⁴⁰ cecidit *Boll.* ⁴¹ om. omnem A. ⁴² grauedinem *Boll.* ⁴³ om. Domino *Boll.* ⁴⁴ om. subu.—tunc A. ⁴⁵ clamauit *rell.* ⁴⁶ Spero autem *Boll.* ⁴⁷ In—annos. So CF₃F₄R (test. Dom. F₃; illo R, def. qui loquitur—iterum); *Boll.*, euangelio Dom. test, In illa die, inquit, non uos, &c.; A, Inquit Dominus non uos estis. multos adhuc, &c., with z in marg

¹⁹ Joel 2, 12; Luc. 1, 37; Matt. 15, 32; Luc. 10, 30; Matt. 3, 4; Luc. 24, 42; 1 Cor. 10. 28. ²⁰ 2 Pet. 1, 13; Ps. 49, 15; Matt. 10, 19.

uos estis qui loquimini, sed Spiritus Patris uestri qui loquitur in uobis.

21. Et iterum post annos multos adhuc capturam dedi.¹ Ea² nocte prima itaque mansi cum illis. *Responsum autem diuinum* 5 *audiui dicentem mihi,*³ Duobus autem mensibus⁴ eris cum illis. Quod ita factum est. Nocte⁵ illa sexagensima⁶ liberauit me Dominus de manibus eorum.

22. Etiam⁷ in itinere praeuidit⁸ nobis cibum et ignem et siccitatem cotidie donec decimo⁹ die peruenimus¹⁰ omnes.¹¹ Sicut superius in- 10 sinuauimus, xx et .iiii. dies per¹² disertum iter fecimus.¹³ Et ea nocte qua peruenimus¹⁴ omnes¹⁵ de cibo uero¹⁶ nihil habuimus.

23. Et¹⁷ iterum post paucos annos in Britannia¹⁸ eram cum parentibus meis, qui me ut filium susceperunt¹⁹ et ex fide rogauerunt me ut uel modo ego²⁰ post tantas tribulationes quas ego pertuli nusquam²¹ ab 15 illis discederem.

Et ibi scilicet uidi²² in uisu noctis²³ uirum uenientem quasi de Hiberione, cui nomen Uictoricus,²⁴ cum aepistolis innumerabilibus.²⁵ Et dedit mihi unam ex his,²⁶ et legi²⁷ principium aepistolae continen- tem, Uox Hyberionacum²⁸; et dum²⁹ recitabam principium³⁰ aepistolae 20 putabam³¹ ipso momento³² audire uocem ipsorum³³ qui erant iuxta siluam Foeluti³⁴ quae est prope mare occidentale,³⁵ et sic exclamaue- runt quasi ex uno ore,³⁶ Rogamus te, sancte puer,³⁷ ut uenias et adhuc ambulas³⁸ inter nos.

¹ in capt. decidi *Boll.* *Boll. transposes* Et iterum—manibus eorum and In itinere—habuimus. ² Nocte uero prima mansi *Boll. R. def.* ³ om. dic. mihi A; dicens *Boll. F₄ corr.* dicente F₃ (mihi *def. in R.*) ⁴ duos menses, *rell.*; R *def.* ⁵ ins. igitur *Boll. R. def.* ⁶ sexagesimo die CF₃F₄; R *def.* ⁷ om. etiam *Boll.*; ecce CF₃F₄R. ⁸ autem nostro prouidit, *Boll.* ⁹ x decimo A; quarto decimo *rell.* ¹⁰ praeuenimus *Boll.*; om. peruenimus—qua F₃. ¹¹ homines *Boll.* ad homines CF₄; . . . omnes R. ¹² om. dies per A; R *def.* ¹³ facimus A*. ¹⁴ praeuimus *Boll.* ¹⁵ ad homines CF₄. ¹⁶ om. uero; R *Boll. def.* ¹⁷ om. et *Boll.* ¹⁸ Britannia *Boll.*; Britannia CF₄; Britannia F₃R. ¹⁹ exceperunt *Boll.* ²⁰ om. ego *Boll.* R; me CF₃F₄. ²¹ numquam *rell.*; R *def.* ²² For uidi—uisu, in sinu A. ²³ nocte *Boll. (pr. de)* CF₃F₄R. ²⁴ H. Uictoricus nomine *Boll.*; H. Uictoricus nomen CF₃F₄R. ²⁵ ins. uidi A; R *def.* ²⁶ illis *rell.* ²⁷ lego *Boll.* ²⁸ Hiberionacum CF₄R; Hiberio&cnacum F₃; Hyberionarum *Boll.* ²⁹ cum *rell.* ³⁰ initium *Boll.*; R. *def.* ³¹ ins. enim A. ³² ipse in mente A. ³³ illorum R. ³⁴ uirgulti B; uirgulti uolutique CF₄ (uolutique being underdotted in F₄); uirgultique F₃; uirgulti ueluti R. ³⁵ occidentem CF₃F₄R. ³⁶ om. quasi—ore A. ³⁷ sanctum puerum CF₃F₄R; om. ut *Boll.* ³⁸ ambules *rell.*; int. nos amb. R.

Et ualde *compunctus sum corde* et¹ amplius non potui legere, et sic expertus² sum. Deo gratias, quia post plurimos annos³ praestitit illis Dominus secundum clamorem illorum.⁴

24. Et, alia nocte, *nescio, Deus scit*, utrum⁵ in me an iuxta me, uerbis peritissimis⁶ quos ego audiui et non potui intellegere nissi ad posterum⁷ orationis sic effatus⁸ est, Qui *dedit animam suam pro te*,⁹ ipse est qui loquitur in te.¹⁰ Et sic expertus¹¹ sum gaudibundus.¹²

25. Et iterum uidi¹³ in me ipsum orantem, et eram¹⁴ quasi¹⁵ intra corpus meum, et audiui super me,¹⁶ hoc est super *interiorem hominem*, et ibi¹⁷ fortiter orabat gemitibus. Et inter haec *stupebam* et ammira-¹⁸ bam¹⁹ et cogitabam quis esset qui in me orabat;²⁰ sed ad postremum orationis sic²¹ effatus²² est ut sit Spiritus;²³ et sic expertus sum, et recordatus sum apostolo dicente,²⁴ *Spiritus adiuuat infirmitates orationis nostras*.²⁵ Nam²⁶ quod²⁷ oremus sicut oportet²⁸ nescimus, sed ipse Spiritus postulat pro nobis gemitibus inenarrabilibus²⁹ quas uerbis exprimi non³⁰ possunt.³¹ Et iterum, Dominus³² aduocatus³³ noster³⁴ postulat pro nobis. ¶

26. Et quando temptatus sum ab aliquantis senioribus meis qui uenerunt et³⁵ peccata mea contra laboriosum episcopatum meum — utique³⁶ in illo die fortiter *impulsus sum ut caderem* hic et in aeternum; sed Dominus pepercit *proselito et peregrino propter nomen suum* benigne³⁷ et ualde mihi³⁸ subuenit in hac conculcatione quod in labem³⁹ et in⁴⁰ obprobrium non male deueni. Deum oro, ut non illis in peccatum reputetur.⁴¹

27. *Occasionem*⁴² post annos⁴³ triginta inuenerunt,⁴⁴ et⁴⁵ aduersus uerbum quod confessus fueram antequam⁴⁶ essem diaconus.—Propter⁴⁷

¹ ins. üald A*. ² expergefactus *rell.* ³ ann. plur. *rell.* ⁴ eorum *rell.* ⁵ om. utrum *Boll.* ⁶ peritissime A (*with z in marg.*); per territus, R; ins. audiebam quosdam ex spiritu psallentes intra me, et nesciebam qui essent *Boll.* ⁷ postremum *rell.* ⁸ So W. Stokes; efficiatus A; affatus *rell.* ⁹ Qui ded. pro te an. su. *Boll.*; Qui pro te an. su. posuit. CF₃F₄R, om. posuit F₃R; ¹⁰ om. ipse-te *rell.* ¹¹ expergefactus *rell.* ¹² Et sic euigilaui *Boll.* ¹³ audiui *Boll.* ¹⁴ erat *Boll.* ¹⁵ om. quasi C. ¹⁶ om. super me A. ¹⁷ etbi A. ¹⁸ admirabar *rell.* ¹⁹ oret in me CF₃F₄R; oraret in me *Boll.* ²⁰ For sic-sum, dixit se esse Spiritum *Boll.* ²¹ efficiatus A; effectus F₃; effectus R. ²² episcopus (eps) ACF₃R; sps F₄ *corr.* ²³ apostoli dicentis *Boll.* ²⁴ infirmitatem nostre orat *rell.* (*Boll.* inf. orat. nostr.). ²⁵ So A *Boll.* ²⁶ F₄ *corr.* R; num CF₃F₄*. ²⁷ quid *rell.* ²⁸ om. sic. op. *Boll.* ²⁹ inerrabilibus A. ³⁰ exprimere non possum *Boll.*; exprimi non potest CF₃F₄R. ³¹ Deus C. ³² ins. est *Boll.* F₃. ³³ ins. et ipse *Boll.* ¶ A breaks off. ³⁴ ob *Boll.* ³⁵ nonnumquam *Boll.* ³⁶ et mihi benigne ualde *Boll.* ³⁷ labe CF₃R (*an erasure follows in F₃*). ³⁸ om. in *Boll.* ³⁹ deputetur R. ⁴⁰ So N. J. D. White; occasionum CF₃F₄R; rep. occasio. Nam *Boll.* ⁴¹ ins. uero R. ⁴² ins. me *xss.* ⁴³ om. et *Boll.* ⁴⁴ antequod CF₄*.

23. Ps. 108, 17. 24. 2 Cor. 12, 2; 1 Joh. 3, 16. 25. Eph. 3, 16; Dan. 8, 27; Rom. 8, 26; 1 Joh. 2, 1; Rom. 8, 34. 26. Ps. 117, 13; Lev. 25, 23; Ps. 105, 8; 2 Tim. 4, 16. 27. Dan. 6, 5.

anxietatem mesto animo insinuaui amicissimo meo¶ quae in pueritia mea una die gesseram, immo in una hora, quia necdum praeualebam. *Nescio, Deus scit*, si habebam¹ tunc annos² quindecim, et Deum uiuum³ non credebam, neque ex⁴ infantia mea; sed in morte et in⁵ incredulitate mansi donec ualde castigatus sum, et in ueritate humiliatus sum a fame et nuditate et cotidie.

28. Contra, Hiberione⁶ non sponte pergebam *donec* prope *deficiebam*. Sed haec⁷ potius bene mihi⁸ fuit, quia ex hoc emendatus sum a Domino; et aptauit me ut hodie essem quod aliquando longe a me
10 erat, ut ego curas haberem aut satagerem pro salute aliorum, quando autem⁹ tunc etiam de me ipso non cogitabam.

29. Igitur in illo die quo *reprobatus* sum a memoratis supradictis, ad noctem illam *ſuidi in uiſſu noctis*.¹⁰ Scriptum erat¹¹ contra faciem meam sine honore. Et inter haec audiui *reſponſum diuinum*¹² dicentem¹³ mihi, Male uidimus¹⁴ faciem designati¹⁵ nudato nomine. Nec sic praedixit, Male uidisti, sed Male uidimus; quasi ibi¹⁶ se iunxisset.¹⁷ Sicut dixit, *Qui uos tangit quasi qui*¹⁸ *tangit pupillam oculi mei*.

30. Idcirco gratias ago ei *qui me* in omnibus *confortauit* ut non me inpediret¹⁹ a protectione²⁰ quam²¹ statueram et de mea quoque opera²²
20 quod a Christo Domino²³ meo dediceram,²⁴ sed magis²⁵ ex eo *ſenſi in me*²⁶ *uirtutem* non paruam, et *fides* mea *probata* est coram Deo et hominibus.

31. Unde autem²⁷ *audenter dico* non me reprehendit conscientia mea hic et in futurum.²⁸ *Teſtem Deum habeo*²⁹ *quia non ſum mentitus*
25 in sermonibus quos ego³⁰ retuli uobis.³¹¶

32. Sed magis doleo pro amicissimo meo cur hoc meruimus audire tale responsum.³² Cui ego credidi etiam animam!³³ Et comperi³⁴ ab aliquantis fratribus³⁵ ante *deſenſionem* illam, quod ego non interfui,

¶ R breaks off. 1 habeam CF₄. 2 annis CF₃F₄°. 3 unum Boll. 4 For neque ex, ab Boll. 5 et in crudelitate F₃. 6 Hiberionem F₄ Hyberionem Boll. 7 hoc Boll. F₄ corr. 8 mihi bene Boll. 9 autem underdotted in F₄; Boll. om. autem tunc. 10 in uiſu noct. [uidi] Boll. 11 om. erat Boll. 12 om. diuinum A. 13 dicens Boll. F₄ corr. 14 audiuius A. 15 dei signati CF₃F₄. 16 sibi A. 17 iunxit rel. (se iunxit C; ibiſe F₃; F₄ has erased space between ibi and se). 18 om. quasi qui Boll.; om. qui CF₃F₄. 19 in penderet CF₃F₄°. 20 ins. mea. Boll. 21 qua A. 22 meo q. opere Boll. F₄ corr. 23 om. Domino rel. 24 didiceram rel.; dedideram A. 25 ins. et F₃. 26 om. in me A. 27 om. autem Boll. 28 om. hic-futurum Boll. 29 teſte deo abeo A. 30 om. ego Boll. 31 om. uobis rel. ¶ A breaks off. 32 cur tale mer. habere resp. Boll. 33 ins. meam Boll. 34 comperi Boll. 35 ins. meis Boll.

27. 2 Cor. 12, 2. 28. Ps. 17, 38. 29. Ps. 117, 22; Dan. 7, 13; Rom. 11, 4; Zech. 2, 8. 30. Phil. 4, 13; Maro. 5, 29; 1 Pet. 1, 7. 31. Act. 2, 29; 2 Cor. 1, 23; Gal. 1, 20. 32. 2 Tim. 4, 16.

nec in Brittanniis eram, nec a me orietur, ut et ille in mea absentia pro me pulsaret.¹ Etiam mihi ipse ore suo dixerat, Ecce dandus² es tu ad gradum episcopatus. Quod³ non eram dignus. Sed unde uenit illi postmodum, ut coram cunctis, bonis et malis, et⁴ me publice *dahonestaret*, quod ante sponte et laetus indulserat, et⁵ Dominus qui maior⁶ omnibus est?

33. Satis dico; Sed tamen non⁷ debeo abscondere *donum Dei* quod largitus est nobis⁸ in *terra captiuitatis meae*, quia tunc fortiter inquisiui eum,⁹ et ibi inueni illum,⁹ et seruauit me ab omnibus iniquitatibus. Sic credo,¹⁰ *propter inhabitantem Spiritum eius*, qui *operatus est* usque¹⁰ in hanc¹¹ diem in me. *Audenter* rursus. Sed scit Deus si mihi homo hoc effatus fuisset,¹² forsitan tacuissem propter *caritatem Christi*.

34. Unde ergo¹³ indefessam gratiam ago Deo meo qui me fidelem seruauit in *die temptationis meae*, ita ut hodie confidenter offeram illi sacrificium, ut¹⁴ *hostiam uiuentem*, animam meam Christo¹⁵ Domino meo, ¹⁵ qui me *seruauit ab omnibus angustis meis*, ut et¹⁶ dicam: *Quis ego sum, Domine*, uel quae est *uocatio*¹⁷ mea, qui mihi tantam diuinitatem aperuisti¹⁸ ita ut hodie in¹⁹ gentibus constanter *exaltarem*²⁰ et *magnificarem nomen* tuum ubicumque²¹ loco²² fuero; nec non²³ in secundis, sed etiam in pressuris; ut quicquid mihi euenerit, siue bonum siue²⁰ malum, aequaliter debeo²⁴ suscipere, et Deo gratias semper agere, qui mihi ostendit ut indubitabilem eum sine fine crederem,²⁵ et²⁶ qui me audierit, ut et ego inscius²⁷ in *nouissimis diebus* hoc opus tam pium et tam mirificum adire adgrederer,²⁸ ita ut imitarem²⁹ quispiam³⁰ illos quos ante³¹ Dominus iam olim praedixerat praenuntiatiuros³² euangelium²⁵ suum in *testimonium omnibus gentibus ante finem mundi*. Quod ita ergo ut uidimus, itaque suppletum est.³³ Ecce testes sumus quia euangelium praedicatum est usque ubi nemo ultra est.

¹ pulseur pro me; *om.* Etiam mihi *Boll.* ² promouendus *Boll.*; datus *F₃*.
³ quo *Boll.* ⁴ in *Boll.* ⁵ est *Boll.* ⁶ *om.* non *F₃*. ⁷ *om.* nobis *Boll.*
⁸ illum *Boll.* ⁹ eum *Boll.* ¹⁰ *om.* sic credo *Boll.* ¹¹ hunc *Boll.*
¹² *For* Audenter-fuisset, Nouit autem Dominus si ab homine ista audissem *Boll.*
¹³ ego *Boll.* ¹⁴ et uelut *Boll.* ¹⁵ consecro *Boll.* ¹⁶ ei *Boll.* ¹⁷ inuocatio *Boll.*
¹⁸ *So N. J. D. White*; cooperuisti *CF₃F₄*; denudasti *Boll.* ¹⁹ *om.* in *F₃*;
om. in gent. const. *Boll.* ²⁰ exultarem *CF₃F₄*. ²¹ in quocumque *Boll.* ²² *om.*
loco *F₄* *corr.* ²³ nec tantum *Boll.* ²⁴ debeam *Boll.* ²⁵ cred. sine fine *Boll.*
²⁶ ut *F₃*. ²⁷ *om.* inscius *Boll.*; *ins.* aim *CF₄*. ²⁸ audirem adgrederer *F₃*;
auderem aggredi *Boll.* ²⁹ imitarem *Boll.* *F₄* *corr.* ³⁰ quospiam *F₄* *corr.*; *om.* *Boll.*
³¹ *om.* ante *Boll.* ³² praenuntiaturus *C*; praenuntiaturum *F₃*; praenuntiatus *F₄*.
³³ Quod sicut uid. ita suppl. est *Boll.*; *om.* ut *F₃*.

33. Prov. 25, 8; Joh. 10, 29. 33. Joh. 4, 10; 2 Par. 6, 37; Rom. 8, 11; 1 Cor. 12, 11; Act. 2, 29; 2 Cor. 5, 14. 34. Ps. 94, 9; Rom. 12, 1; Ps. 33, 7; 2 Reg. 7, 18; 1 Cor. 1, 26; Ps. 33, 4; Act. 2, 17; Matt. 24, 14.

35. § Longum est autem totum per singula enarrare¹ laborem meum uel per partes. Breuiter dicam qualiter piissimus² Deus de seruitute sepe [me]³ liberauit et⁴ de periculis xii qua⁵ periclitata est anima mea, praeter insidias multas, et quas uerbis expremere non ualeo; nec⁶ iniuriam legentibus faciam; sed Deum⁷ auctorem habeo⁸ qui nouit omnia etiam antequam fiant, ¶ ut me pauperculum pupillum⁹ idiotam tamen¹⁰ responsum diuinum creberrime admonuit.¹¹

36. Unde mihi haec sapientia, quae in me non erat, qui nec numerum dierum noueram, neque Deum sapiebam? Unde mihi postmodum donum tam magnum tam salubre Deum¹² agnoscere uel¹³ diligere, sed¹⁴ ut patriam et parentes amitterem?

37. Et munera multa mihi offerebantur cum fletu et lacrimis. Et offendi illos, necnon¹⁵ contra uotum, aliquantos¹⁶ de senioribus meis; sed, gubernante Deo, nullo modo consensi neque adqueui illis; non mea gratia, sed Deus qui¹⁷ uincit¹⁸ in me, et resistit¹⁹ illis omnibus ut ego ueneram²⁰ ad Hibernas gentes euangelium praedicare, et ab incredulis contumelias²¹ perferre, ut aurem²² obprobrium peregrinationis meas et persecutiones multas usque ad uincula, et ut darem²³ ingenuitatem meam pro utilitate²⁴ aliorum; et si dignus fuero promptus sum, ut etiam animam meam incunctanter et libentissime pro nomine eius, et ibi²⁵ opto inpendere eam usque ad mortem si Dominus mihi²⁶ indulgeret.

38. § Quia ualde debitor sum Deo qui mihi tantam gratiam donauit ut populi multi per me in Deum²⁷ renascerentur²⁸ et postmodum con-summarentur,²⁹ et ut clerici ubique illis³⁰ ordinarentur, ad plebem nuper uenientem ad credulitatem quam sumsit Dominus ab extremis terrae, sicut³¹ olim promisserat per profetas suos: Ad te gentes uenient ab extremis terrae, et dicent, Sicut falsa conparauerunt patres nostri idola

§ A resumes. ¹ narrare Boll. ² piissimus A. ³ So Denis [me]. ⁴ For et-xii, ex duodecim per. rel. ⁵ quibus rel. ⁶ ne Boll.; ins. et CF₃F₄. ⁷ dum CF₃F₄; Dominum Boll. ⁸ om. habeo A. ¶ A breaks off. ⁹ et pusillum Boll. ¹⁰ So N. J. D. White; ideo tamen CF₃F₄; om. Boll. ¹¹ admoneret F₂ Boll. ¹² tam magn. et sal. donum Dei Boll. ¹³ et Boll. ¹⁴ om. sed Boll. ¹⁵ For illos necnon, illic Boll. ¹⁶ aliquantis CF₃F₄. ¹⁷ non ego, sed Dei gratia quae Boll. ¹⁸ uicit Boll. F₄ corr. ¹⁹ So F₃; restitit CF₄; reatiti Boll. ²⁰ For ut-uen., quatenus uenirem Boll. ²¹ iniurias Boll. ²² audirem Boll.; haurirem F₄ corr. ²³ ins. me et Boll.; ins. me F₃. ²⁴ utilitatem C. ²⁵ illi Boll. ²⁶ om. mihi Boll. § A resumes. ²⁷ Domino Boll. ²⁸ renascantur rel. ²⁹ om. et-cons. A ³⁰ illi F₄ corr. ³¹ om. sicut-terrae (1) Boll.

35. Rom. 8, 26; Act. 4, 13; Rom. 11, 4. 36. Ps. 38, 5; Matt. 16, 23. 37. Sir. 29, 30; 2 Tim. 2, 9; Rom. 1, 14; Joh. 13, 37; 2 Cor. 12, 15; Phil. 2, 30. 38. Jer. 16, 19.

et non est in eis utilitas.¹ Et iterum: Posui te lumen in² gentibus ut sis in salutem⁴ usque ad extremum⁵ terrae.

39. Et ibi uolo *expectare*⁶ *promissum* ipsius qui utique numquam fallit, sicut in *aeuangelio* pollicetur:⁷ *Uenient ab oriente et occidente et ab austro et ab aquilone, et⁸ recumbent cum Abraam et Isaac et Iacob*; sicut credimus⁹ ab omni mundo uenturi sunt credentes.¹⁰

40. Idcirco itaque¹¹ oportet¹² bene et diligenter piscare,¹³ sicut Dominus praemonet et docet¹⁴ dicens: *Uenite post me et¹⁵ faciam uos fieri¹⁶ piscatores hominum*. Et iterum dicit per prophetas:¹⁷ *Ecce¹⁸ mitto piscatores et uenatores multos, dicit Deus,¹⁹ et caetera.*

Unde autem²⁰ ualde oportebat²¹ retia nostra tendere ita ut *multitudo copiossa* et turba Deo caperetur, et²² ubique essent clerici qui baptizarent et exhortarent²³ populum indigentem et dissiderantem,²⁴ sicut Dominus²⁵ in *aeuangelio* ammonet²⁶ et docet²⁷ dicens: *Euntes ergo nunc²⁸ docete omnes gentes baptizantes eas²⁹ in nomine Patris et Filii et Spiritus Sancti*³⁰ *docentes eos obseruare³¹ omnia quaecumque mandauimus³² uobis*; et ecce ego uobiscum sum omnibus diebus usque ad consummationem saeculi. Et iterum dicit:³³ *Euntes ergo³⁴ in mundum uniuersum praedicare aeuangelium omni creaturae*; qui crediderit et baptizatus fuerit saluus erit, qui uero non crediderit condempnabitur.³⁵ Et iterum:³⁶ *Prasdicabitur hoc euangelium regni in uniuerso mundo in testimonium omnibus gentibus*; et tunc ueniet finis.

Et item Dominus per prophetam³⁷ praenuntians inquit: *Et erit in nouissimis diebus, dicit Dominus, effundam de Spiritu meo super omnem carnem, et prophetabunt filii Suestri et filias uestrae, et filii³⁸ uestri*

¹ Ad-utilitas: om. te CF₃F₄; om. sicut Boll.; ins. et bef. patres F₃; ins. sibi bef. idola Boll.; utilitas in eis Boll. CF₃F₄; A, sicut falso comp. patr. nost. id. et non est in eis util. ad te gent. ueniunt et dicent. ² in lucem Boll. ³ et F₃.

⁴ For in sal., salus mea Boll. ⁵ ultimum Boll. ⁶ aspectare F₃. ⁷ pollicetur CF₃F₄. ⁸ om. et ab aust. et ab aq. et rel. (Boll. has et rec.). ⁹ credimur Boll.

¹⁰ om. sunt cred. Boll. ¹¹ om. itaque rel. ¹² ins. quidem rel. ¹³ piscari Boll. F₄ corr. ¹⁴ om. et docet rel. ¹⁵ om. et Boll. ¹⁶ om. fieri CF₃F₄. ¹⁷ om. dicit-prop. A. ¹⁸ ins. ego rel. ¹⁹ Dominus rel. ²⁰ oportuit ualde Boll.

²¹ oportebatur CF₃F₄. ²² ut rel. ²³ exhortarentur F₄ Boll. (exhort.). ²⁴ indigentem et desiderantem rel. ²⁵ ins. inquit Boll. CF₃; space erased in F₄. ²⁶ admonens Boll. ²⁷ om. docens Boll. ²⁸ om. nunc rel. ²⁹ eos rel. ³⁰ For docentes-saeculi, reliqua usque dicit saeculi A. ³¹ seruare Boll. ³² dixero Boll. ³³ om. dicit A. ³⁴ om. ergo Boll. ³⁵ om. qui-condemp. Boll.; For Et iterum-Dei uiui, reliqua sunt exempla A. ³⁶ om. iterum Boll. ³⁷ For item-prop., iterum Domini propheta Boll. § B resumes. ³⁸ iuuenes B; om. fil. uestr. F₃.

33. Act. 13, 47. 39. Act. 1, 4; Matt. 8, 11. 40. Matt. 4, 19; Jer. 16, 16; Luc. 5, 6; Matt. 28, 19; Marc. 16, 15; Matt. 24, 14; Act. 2, 17.

uisiones uidebunt et seniores uestri somnia somniant; et quidem super seruos meos et super ancillas meas in diebus illis effundam de Spiritu meo et prophetabunt. Et in¹ Osee dicit: Uocabo non plebem meam plebem meam,² et non misericordiam consecutam misericordiam consecutam.³ Et erit in⁵ loco ubi dictum est: Non plebs mea uos, ibi uocabuntur filii Dei uiui.

41. Unde autem Hiberione qui numquam notitiam Dei⁴ habuerunt,⁵ nissi idula et⁶ immunda usque nunc⁷ semper coluerunt, quomodo⁸ nuper facta⁹ est *plebs* Domini et *filii Dei* nuncupantur? Filii Scottorum¹⁰ et filiae regulorum monachi et¹¹ uirgines Christi esse¹² uidentur. ¶

10 42. Et etiam una benedicta¹³ Scotta genitiua,¹⁴ nobilis, pulcherrima, adulta¹⁵ erat, quam ego baptizauī; et post paucos dies una causa uenit ad nos; insinuauit¹⁶ nobis responsum accepisse a nutu¹⁷ Dei, et monuit etiam¹⁸ ut esset¹⁹ uirgo Christi²⁰ et²¹ ipsa²¹ Deo proximaret. Deo gratias, sexta ab hac die optime et audissime arripuit illud quod²² etiam omnes uirgines Dei ita hoc²³ faciunt; non sponte²⁴ patrum earum, sed et²⁵ persecutionem²⁵ patiuntur²⁶ et inproperia falsa a parentibus suis, et nihilominus plus augetur numerus, et de genere nostro qui ibi nati sunt nescimus numerum eorum, praeter uiduas et continentes.

20 Sed et illae²⁷ maxime laborant quas seruitio detinentur. Usque ad terrores et minas assidue perferunt;²⁸ sed Dominus gratiam dedit multis ex ancillis meis²⁹ nam etai uetantur³⁰ tamen fortiter imitantur.

43. Unde autem etai uoluero³¹ amittere illas, et ut pergens in Britanniis — et libentissime paratus eram — quasi ad patriam et³² parentes, non id solum sed etiam usque ad³³ Gallias, uisitare fratres et ut uiderem faciem sanctorum Domini mei; scit Deus quod ego ualde optabam. Sed *alligatus Spiritu* qui *mihi protestatur* si hoc fecero, ut futurum reum me esse³⁴ designat, et timeo perdere laborem quem inchoauī; et non ego sed Christus Dominus qui me³⁵ imperauit ut

¹ om. in BF₃. ² om. pleb. meam C. ³ om. miser. cons. C. ⁴ om. Dei A.
⁵ habuerant *rell.* ⁶ om. et B. ⁷ om. nunc A. ⁸ om. modo C. ⁹ effecta B;
fecta C; perfecta F₃F₄ (pfecta). ¹⁰ sanctorum A. ¹¹ om. et F₃.
¹² ipse CF₃F₄. ¹³ A *breaks off*. ¹⁴ Scotta ben. B. ¹⁵ om. genitiua B.
¹⁶ adultera F₃. ¹⁷ ins. namque B. ¹⁸ nuntio BF₃. ¹⁹ eam B.
²⁰ permaneret B. ²¹ om. Christi F₃ (uirgo uirgo). ²² sic B. ²³ *For ita hoc*,
similiter B. ²⁴ uoluntate B. ²⁵ *For sed et, immo B; om. et C.* ²⁶ per-
secutiones B. ²⁷ *So Denis*; patuntur B; patiantur CF₃F₄. ²⁸ *So Ware*; illas
BCF₃, illa F₄ *corr.* ²⁹ persuaserunt CF₄; persequerunt F₃. ³⁰ suis B.
³¹ *So Denis*; nam et siue tantum BF₃; om. et CF₄. ³² *long erased space in F₄.*
³³ om. ad CF₃F₄. ³⁴ reum fut. esse B. ³⁵ mihi B.

venirem essemque cum illis residuum aetatis meae, si Dominus voluerit, et custodierit me ab omni uia mala, ut non *peccem coram illo*.

44. Spero autem hoc debueram; sed memetipsum² non credo *quamdiu fuero in hoc corpore mortis*, quia fortis est, qui cotidie nititur subvertere me a fide et proposita³ castitate religionis non fictae usque⁵ in finem uitae meae Christo Domino⁴ meo. Sed *caro inimica* semper trahit ad mortem, id est, ad inlecebras in⁶ infelicitate perficiendas. Et *scio ex parte* qua re⁴ uitam perfectam ego non egi⁷ sicut et caeteri credentes; sed confiteor Domino meo et non erubesco in conspectu⁸ ipsius,⁹ *quia non mentior*, ex quo cognoui eum a *iuuentute mea* creuit¹⁰ in me amor Dei et timor ipsius; et usque nunc fauente Domino *fidem seruaui*.

45. Rideat autem et insultet qui voluerit, ego non silebo neque abscondo signa et mirabilia quae¹⁰ mihi a Domino ministrata sunt ante multos annos quam fuerunt,¹¹ quasi qui nouit omnia etiam *ante*¹⁵ *tempora saecularia*.

46. Unde autem¹² debuero sine cessatione Deo gratias agere, qui sepe indulsit insipientiae meae et¹³ negligentiae meae, et de loco non in uno quoque ut non mihi uehementer irasceret qui *adiutor* datus sum, et non cito adqueui, secundum quod¹⁴ mihi ostensum fuerat, et²⁰ sicut Spiritus *suggerabat*.¹⁵ Et *misertus est* mihi¹⁶ Dominus in *milia milium*, quia uidit in me quod paratus eram, sed quod mihi pro his nesciebam de statu meo quid facerem, quia multi hanc legationem prohibebant. Etiam inter seipsos post tergum meum narrabant et dicebant, Iste quare se mittit in periculum inter hostes qui Deum²⁵ non nouerunt? Non ut causa malitiae, sed non sapiebat illis, sicut et ego ipse testor, intelligi,¹⁷ propter rusticitatem meam. Et non cito agnoui gratiam, quae tunc erat in me. Nunc mihi sapit¹⁸ quod ante debueram.

47. Nunc ergo simpliciter insinuaui fratribus et conseruis meis,³⁰ qui mihi crediderunt, propter quod *praedixi et praedico* ad roborandam et confirmandam fidem uestram. Utinam ut et uos imitemini maiora, et

¹ esse me cum CF₄* (m (1) *erased*); esse meum F₃. ² memetipso F₃.

³ proposita BF₃. ⁴ Deo F₄. ⁵ For in infel., inlicitate CF₃; inlicitate F₄ *corr*.

⁶ *ins.* ego, *om.* ego *infra* B. ⁷ didici B. ⁸ erubesco inspectu F₃. ⁹ eius B.

¹⁰ quem F₃. ¹¹ *serent* B; fuerant F₄. ¹² ego quidem debueram B.

¹³ *om.* et CF₃F₄. ¹⁴ quid F₃. ¹⁵ Et spiritus nichilominus *sug.*, et B.

¹⁶ mei B. ¹⁷ testator intellexi F₃. ¹⁸ capit CF₃F₄.

43. Jac. 4, 15; Luc. 15, 18. 44. 2 Pet. 1, 13; Rom. 7, 24; Rom. 8, 7; 1 Cor. 13, 9; Gal. 1, 20; Ps. 87, 16; 2 Tim. 4, 7. 45. 2 Tim. 1, 9. 46. 1 Cor. 3, 9; Job. 14, 26; Exod. 20, 6. 47. 2 Cor. 13, 2.

potiora faciat! Hoc¹ erit gloria mea, quia, *Filius sapiens gloria patris est.*

48. Uos scitis et Deus qualiter apud uos *conuersatus sum*² a iuuentute mea et³ fide ueritatis et⁴ sinceritate cordis. Etiam ad gentes⁵ illas inter quas habito, ego fidem illis praestau⁶ et praestabo. Deus scit, neminem illorum *circumueni*; nec cogito, propter Deum et ecclesiam ipsius, ne *excitem* illis et nobis omnibus *persecutionem*, et ne per me blasphemaretur⁷ nomen Domini; quia scriptum est: *Uae homini per quem nomen Domini blasphematur.*

49. *Nam etsi imperitus sum in omnibus*⁷ tamen conatus sum quipiam seruare me etiam et⁸ fratribus Christianis et uirginibus Christi et mulieribus religiosis, quae mihi ultronea munuscula donabant, et super altare iactabant ex ornamentis suis, et iterum reddebam⁹ illis. Et aduersus¹⁰ me scandalizabantur cur hoc¹¹ faciebam. Sed ego propter¹² spem perennitatis, ut me in omnibus caute propterea conseruarem, ita ut me in aliquo titulo infideles¹³ *caperent* uel ministerium seruitutis meae, nec etiam in minimo¹³ incredulis locum darem infamare siue detractare.

50. Forte autem quando baptizau¹⁴ tot milia hominum sperauerim ab aliquo illorum uel dimidio¹⁴ scriptulae? *Dicite mihi et reddam uobis.* Aut quando ordinauit ubique Dominus clericos per modicitatem meam et ministerium gratis distribui illis, si poposci ab aliquo illorum uel pretium uel *calciamenti* mei, *dicite aduersus me*¹⁵ et *reddam uobis* magis.

51. Ego *inpendi pro*¹⁶ uobis ut me *caperent*¹⁷; et inter uos et ubique pergebam causa uestra in multis periculis etiam usque ad exterar partes ubi nemo ultra erat, et ubi numquam aliquis peruenerat qui baptizaret, aut clericos ordinaret aut populum consummaret,¹⁸ donante Domino, diligenter et *libentissime* pro salute uestra omnia gessi.¹⁹

52. Interim praemia dabam regibus²⁰ praeter²¹ quod dabam mercedem²² filiis ipsorum, qui mecum ambulant; et nihilominus²³ compre-

¹ Haec B. ² conu. sum inter uos B; F₃ for apud has inter writ ocer. ³ in B. ⁴ ins. in F₃F₄. ⁵ prestiti B. ⁶ blasphemetur B. ⁷ nominibus BCF₃. ⁸ om. et B. ⁹ reddebant F₃. ¹⁰ aduersum F₄. ¹¹ ego CF₄. ¹² infideli CF₃F₄. ¹³ minimis B. ¹⁴ dimidium F₄ corr. ¹⁵ For adu. me, michi B. ¹⁶ om. pro B. ¹⁷ So Denis; caperet mss. ¹⁸ in fide confirmaret B. ¹⁹ generaui C; generari F₃; generaur F₄. ²⁰ reg. dab. B. ²¹ propter CF₃F₄. ²² merc. dab. B. ²³ nihil CF₃F₄.

47. Prov. 10, 1. 48. Act. 23, 1; Ps. 87, 16; 2 Cor. 7, 2; 1 Act. 13, 50; Rom. 2, 24; Matt. 18, 7. 49. 2 Cor. 11, 6; 7, 2. 50. 1 Reg. 12, 3. 51. 2 Cor. 12, 15.

henderunt me¹ cum comitibus meis. Et illa die audissimè cupiebant² interficere me; sed tempus nondum uenerat. Et omnia quaecumque nobiscum inuenerunt rapuerunt,³ et me ipsum⁴ ferro uinxerunt. Et quarto decimo die absoluit me Dominus de⁵ potestate eorum; et quicquid nostrum fuit redditum est nobis propter Deum et *necessarios* ⁵ *amicos* quos ante praeuidimus.

53. Uos autem experti estis quantum ego erogauì illis qui indicabant⁶ per omnes regiones quos ego frequentius uisitabam; censeo enim non minimum quam⁷ pretium quindecim hominum distribui illis, ita ut me *fruemini*; et ego *uobis* semper *fruar* in Deum. Non me poenitet, ¹⁰ nec satis est mihi; adhuc *inpendo et superinpendam*. Potens est⁸ Dominus ut det mihi postmodum ut meipsum *inpendar*⁹ *pro animabus uestris*.

54. § Ecce *testem Deum inuoco in animam meam quia non mentior*. Neque ut sit *occasio*¹⁰ *adulationis uel auaritiæ* scripserim¹¹ uobis,¹² neque ut honorem spero ab aliquo uestro.¹³ Sufficit enim¹⁴ honor qui nondum¹⁵ uidetur sed corde creditur. *Fidelis autem qui promisit; numquam mentitur*.

55. Sed uideo iam in *praesenti saeculo* me *supra modum* exaltatum¹⁶ a Domino. Et non eram dignus neque talis ut hoc mihi¹⁷ praestaret, ²⁰ dum scio certissime quod mihi¹⁸ melius conuenit paupertas et calamitas quam diuitiae et diliciae.¹⁹ Sed et Christus Dominus *pauper* fuit pro nobis.²⁰ Ego uero²¹ miser et infelix, etsi opes uoluero iam non habeo, *neque meipsum iudico*, quia quotidie spero²² aut intericionem aut circumueniri aut redigi in seruitutem, siue *occasio*²³ ²⁵ cuiuslibet. ¶ *Sed nihil horum uereor* propter promissa caelorum; quia iactaui meipsum in manus Dei omnipotentis, quia²⁴ ubique dominatur, sicut propheta dicit²⁵: *Iacta cogitatum tuum in Deum et ipse te enutriet*.

56. Ecce nunc *commendo*²⁶ *animam meam fidelissimo Deo meo, pro* ³⁰

¹ ins. tunc B. ² cupiebam CF₃F₄. ³ ins. illud CF₃; illa F₄ corr.
⁴ om. ipsum C; ipso F₃. ⁵ a B. ⁶ iudicabant B. ⁷ quam *erased* in F₄.
⁸ enim B. ⁹ impendat CF₃; impendam F₄ corr. § A resumes. ¹⁰ causa B.
¹¹ om. adul.-scripsit A. ¹² nobis F₃. ¹³ For spero-uestro, sperarem uestrum roll. ¹⁴ ins. mihi BF₃F₄. ¹⁵ om. dum-numquam A. ¹⁶ exaltatus sum A; exultatum CF₃F₄. ¹⁷ michi hoc B. ¹⁸ om. cert.-mihi A. ¹⁹ dil. et diu. B; dilicias et diuitias CF₃F₄; diliciae et diu. F₄ corr. ²⁰ pro nob. fuit paup. B.
²¹ om. uero CF₃F₄. ²² sperno CF₄. ²³ occasionem F₄ corr. ¶ A breaks off.
²⁴ qui F₄ corr. ²⁵ ait B. ²⁶ com. nunc F₄.

53. Act. 10, 24. 53. Rom. 15, 24; 2 Cor. 12, 15. 54. 2 Cor. 1, 23; Gal. 1, 20; 1 Thess. 2, 5; Heb. 10, 23; Tit. 1, 2. 55. Gal. 1, 4; 2 Cor. 1, 8; 8, 9; 1 Cor. 4, 3; Act. 20, 24; Ps. 54, 23. 56. 1 Pet. 4, 19.

quo legationem¹ fungor in ignobilitate mea, sed quia personam non accipit et elegit me ad hoc officium ut² unus essem de suis minimis minister.

57. Unde autem *retribuam illi pro omnibus quae retribuit³ mihi?*
 5 Sed quid dicam uel quid promittam Domino meo? quia nihil video⁴
 nisi ipse mihi dederit, sed *scrutatur⁵ corda et renes*, quia satis et nimis
 cupio et paratus eram ut donaret mihi *bibere calicem* eius sicut indulxit
 et⁶ caeteris amantibus se.

58. Quapropter⁷ non contingat⁸ mihi a Deo⁹ meo ut numquam
 10 amittam *plebem* suam¹⁰ *quam adquisiuit* in ultimis terrae. Oro¹¹ Deum
 ut det mihi perseuerantiam, et dignetur ut reddam illi [me]¹² testem
 fidelem usque ad transitum meum propter Deum meum.

59. Et si aliquid boni umquam imitatus sum¹³ propter Deum meum
 quem diligo, peto¹⁴ ¶ illi¹⁵ det mihi ut¹⁶ cum illis proselitis et captiuis
 15 pro nomine suo effundam sanguinem meum etsi ipsam¹⁷ etiam caream
 sepulturam, aut¹⁸ miserissime¹⁹ cadauer per singula membra²⁰ diuida-
 tur²¹ canibus aut bestiis asperis, aut *uolucres caeli comederent* illud.²²
 Certissime²³ reor si mihi hoc incurrisset²⁴ lucratus sum animam cum²⁵
 corpore meo, quia sine²⁶ ulla dubitatione in die illa resurgemus in
 20 claritate solis, hoc est, in gloria Christi Iesu redemptoris nostri,²⁷
 quasi *filii Dei uiui*²⁸ et *coheredes Christi*, et conformes futurae²⁹ *imaginis*
 ipsius; *quoniam ex ipso et per ipsum et in ipso sunt omnia: ipsi gloria*
in saecula saeculorum, Amen. In illo enim regnaturi sumus.³⁰

60. Nam sol iste quem uidemus, Deo³¹ iubente, propter nos cotidie
 25 oritur, sed numquam regnabit³² neque *permanebit* splendor eius; sed et
 omnes qui adorant eum in poenam miseri male deuenient. Nos autem
 qui³³ credimus et adoramus solem uerum³⁴ Christum, qui numquam

¹ legatione F₄ corr. ² et F₃. ³ retribuatur CF₃F₄. ⁴ ualeo B. ⁵ So Denis: scrutabor CF₃F₄; scrutator B. ⁶ om. et CF₃F₄. ⁷ quia propter CF₃F₄; i erased in F₄. ⁸ So Wars; contingunt mss. ⁹ Domino B. ¹⁰ meam C.
¹¹ ins. ergo B. ¹² So Denis [me]. ¹³ inuitatus sum unq. B. ¹⁴ ins. igitur B. ¶ B leaves off. ¹⁵ illum F₄ corr.; ins. ut Boll. ¹⁶ quatenus Boll.
¹⁷ ipsum C; ipse-sepultura F₄ corr.; ipsa-sepultura Boll. ¹⁸ et Boll.
¹⁹ miserissime Boll. F₄ corr. ²⁰ om. membra Boll. ²¹ ins. auius Boll.
²² For asperis-illud, ac feris proiciatur ut comedant illud Boll.; comederunt F₃; comederint F₄ corr. ²³ ins. enim Boll. ²⁴ curae sit Boll. ²⁵ in Boll.
²⁶ nulla, . . illa die Boll. ²⁷ For Chr.-nostri, Iesu Chr. redempti omnes erimus Boll. ²⁸ om. uiui Boll. ²⁹ creaturas Boll. ³⁰ om. quoniam-sumus F₃; om. sunt-enim CF₄. ³¹ Deo F₄ written over; om. CF₃; illo Boll.
³² ins. et CF₄. ³³ om. qui F₄ corr. ³⁴ ins. Iesum Boll.

56. Eph. 6, 20; Gal. 2, 6; Joh. 15, 16; Matt. 25, 40. 57. Ps. 115, 12; 7, 10; Matt. 20, 22. 58. Es. 43, 21. 59. 3 Reg. 16, 4; Rom. 8, 16; 9, 26; 8, 29; 11, 36. 60. Ps. 71, 5.

interibit neque *qui fecerat*¹ *uoluntatem* ipsius,² sed *manebit in aeternum*, quomodo³ et Christus *manebit*⁴ *in aeternum*, qui regnat cum Deo Patre omnipotente et cum⁵ Spiritu Sancto ante saecula et nunc et per omnia saecula saeculorum, Amen.

61. Ecce iterum iterumque⁶ breuiter exponam uerba confessionis meae. *Testificor* in ueritate et in exultatione cordis⁷ *coram Deo et sanctis angelis* eius, quia⁸ numquam habui aliquam⁹ occasionem praeter euangelium et promissa illius ut umquam redirem ad¹⁰ gentem illam, unde¹¹ prius uix¹² euaseram.

62. § Sed precor credentibus et¹³ timentibus Deum, quicumque 10 dignatus fuerit inspicere uel recipere hanc scripturam quam Patricius peccator¹⁴ indoctus scilicet Hiberione conscripsit,¹⁵ ut nemo umquam dicat quod mea ignorantia,¹⁶ si aliquid pussillum egi¹⁷ uel demonstrauerim secundum Dei placitum,¹⁸ sed arbitramini et¹⁹ uerissime credatur²⁰ quod *donum*²¹ *Dei*²² fuisset. Et²³ haec est confessio mea antequam 15 moriar.²⁴

[EPISTOLA.]

¹ fecerit *Boll.* *F*₄ *corr.* ² suam *Boll.* ³ *om.* quomodo—aeternum *C* ;
om. et *Boll.* ⁴ permanebit *F*₄ ; manet *Boll.* ⁵ *om.* cum *Boll.* ⁶ atque
iterum *Boll.* ⁷ *om.* cordis *Boll.* ⁸ qui *CF*₃*F*₄. ⁹ ullam *Boll.*
¹⁰ redderem a *CF*₃*F*₄. ¹¹ *ins.* autem *CF*₃*F*₄. ¹² *om.* uix *Boll.* § *A resumes.*
¹³ *ins.* petentibus ac *Boll.* ¹⁴ pecc. Pat. *Boll.* ¹⁵ conscripsi *Boll.*
¹⁶ meae ignorantiae [fuerit] *Boll.* ¹⁷ ego *CF*₃*F*₄. ¹⁸ *om.* Dei
plac. *A* with *z* in *marg.* (plac. Dei *Boll.*). ¹⁹ ac *Boll.* ²⁰ credatis
Boll. ; creditur *F*₃. ²¹ *om.* donum *rell.* ²² Deus *Boll.* ²³ atque *Boll.*
²⁴ *A adds* : Huc usque uolumen quod Patricius manu conscripsit sua. Septima
decima Martii die translatus est Patricius ad caelos. *CF*₄ : Explicit liber i.
Incipit lib. ii. *F*₃ : Explicit Liber primus. Incipit secundus.

EPISTOLA.

1. PATRICIUS peccator indoctus scilicet¹:—Hiberione constitutum² episcopum³ me esse fateor.⁴ Certissime reor a Deo *accepi id quod sum*. Inter barbaras⁵ itaque⁶ gentes⁷ habito⁸ *proselitus* et profuga⁹ ob amorem Dei. Testis est ille¹⁰ si ita est. Non quod optabam tam dure et tam aspere aliquid ex ore meo effundere. Sed cogor, *zelo Dei* et¹¹ *ueritatis Christi* excitatus,¹² pro dilectione proximorum atque filiorum pro quibus *tradidi* patriam et parentes et *animam* meam *usque ad mortem*. Si dignus sum, uoui¹³ Deo meo docere gentes etsi contemnor a quibusdam.¹⁴

10 2. Manu mea scripsi atque condidi uerba ista danda et¹⁵ tradenda, militibus mittenda Corotici; non dico ciuibus meis neque¹⁶ ciuibus sanctorum Romanorum, sed ciuibus daemoniorum ob mala opera ipso-
rum. Ritu hostili in morte uiuunt, socii Scottorum atque Pictorum apostatarum, quasi sanguine uolentes saginari¹⁷ innocentium Christiano-
15 rum, quos ego innumeros¹⁸ Deo genui atque in Christo confirmaui.

3. Postera die qua crismati¹⁹ neofiti in ueste candida²⁰—flagrabat²¹ in fronte ipsorum dum²² crudeliter trucidati atque mactati gladio supradictis, —²³ misi epistolam cum sancto presbytero quem ego ex infantia docui, cum clericis, ut nobis aliquid indulgerent²⁴ de praeda uel
20 de captiuis baptizatis quos ceperunt.²⁵ Cachinnos fecerunt de illis.

4. Idcirco nescio quod²⁶ magis lugeam,²⁷ an qui interfecti, uel quos ceperunt, uel quos grauiter Zabulus inlaqueauit. Perenni poena gehennam²⁸ pariter cum ipso mancipabunt,²⁹ quia utique: *qui facit peccatum seruus est*³⁰ et *filius Zabuli*³¹ nuncupatur.

¹ om. scilicet *Boll.* ² constitutus *CF₃ Boll.* ³ episcopus *Boll.* ⁴ om. me-
fateor *Boll.* ⁵ barbaros *F₄ corr.* ⁶ utique *Boll.* ⁷ om. gentes *CF₃F₄.* ⁸ om.
habito *Boll.* ⁹ perfuga *Boll.* ¹⁰ ille est *Boll.* ¹¹ ac *Boll.* ¹² excitauit
CF₃F₄ (F₄ add me, written over). ¹³ noui *C*; uiuo *F₃.* ¹⁴ quibus *CF₃F₄;*
etsi nunc contemnari a quibusdam. Et manu, &c. *Boll.*; om. a *F₄ corr.* ¹⁵ ac
Boll. ¹⁶ atque *Boll.* ¹⁷ For quasi—sag., que sanguelentos sanguinare de
sanguine *CF₃F₄;* sangulentos *F₃;* sanguinolentos *F₄ corr.* ¹⁸ innumera
CF₃F₄. ¹⁹ crismate *F₄ corr.* ²⁰ ins. dum [fides] *Boll.* ²¹ flagrabant
F₄ corr.; fragrabat *F₃.* ²² om. dum *Boll.* ²³ ins. et *CF₃F₄°.* ²⁴ indul-
geretur *Boll.* ²⁵ ceperant *F₄.* ²⁶ quid *F₃ Boll.*; quos *F₄ corr.*
²⁷ lugebam *F₃.* ²⁸ [qui] perenni poenae in gehennâ *Boll.*; perenne *CF₃F₄;*
gehennae *F₄ corr.* ²⁹ mancipabuntur *Boll.* ³⁰ ins. peccati *Boll.* ³¹ diaboli *Boll.*

1. 1 Cor. 4, 7; 15, 10; Lev. 25, 23; Rom. 10, 2; 2 Cor. 11, 10; Phil. 2, 30.
4. Joh. 8, 34, 44.

5. Quarepropter sciat¹ omnis homo timens Deum² quod a³ me alieni sunt et a Christo Deo meo *pro quo legationem⁴ fungor*; patricida,⁵ fratricida,⁶ *lupi rapaces, deuorantes plebem Domini ut cibum panis*. Sicut ait: *Iniqui dissipauerunt legem tuam, Domine*, quam⁷ in supremis temporibus Hiberione optime et⁸ benigne plantauerat, atque instructa erat,⁹ 6 fauente Deo.⁹

6. Non usurpo. Partem habeo cum his quos¹⁰ *aduocauit et¹¹ prae-*
destinauit euangelium praedicare in persecutionibus non paruis *usque*
ad extremum terras, etsi inuidet inimicus per tirannidem Corotici, qui
Deum non ueretur nec sacerdotes ipsius¹² quos *elegit*, et indulsit illis 10
summam diuinam sublimem¹³ potestatem: *quos ligarent super terram*
ligatos esse¹⁴ et in caelis.

7. Unde ergo quaeso plurimum,¹⁵ *sancti et humiles corde*, adulari
talibus non licet, nec cibum nec potum sumere cum ipsis, nec elemo-
sinas ipsorum recipere debere¹⁶ donec crudeliter poenitentiam agentes 15
effusis lacrimis satis Deo faciant,¹⁷ et liberent seruos Dei et ancillas
Christi baptizatas, pro quibus mortuus est et crucifixus.

8. *Dona¹⁸ iniquorum reprobant Altissimus.¹⁹ Qui offert sacrificium*
ex substantia pauperum²⁰ quasi qui²¹ uictimat filium in conspectu patris
sui.²² Diuitias,²³ inquit, quas congregauit²⁴ iniuste²⁵ euomentur de uentre 20
eius, trahit illum angelus mortis,²⁶ ira draconum multabitur,²⁷ interficiet
illum lingua colubris,²⁸ comedit²⁹ eum ignis inextinguibilis. Ideoque,
Uae qui replent se his³⁰ quas non sunt sua. Uel,³¹ *Quid prodest homini*
ut³² totum mundum lucretur,³³ et animas suas detrimentum³⁴ patiat.

9. Longum est per singula discutere³⁵ uel insinuare, per totam 26
legem carpere³⁶ testimonia de tali cupiditate. Auaritia mortale

¹ Quapropter resciat *Boll.* F₂; Propter quam rem sc. F₄. ² Domini F₂.

³ om. a C.

⁴ legatione *Boll.* F₄ corr.

⁵ patricidae et fratricidae *Boll.*

⁶ quoniam C.

⁷ om. et CF₃F₄.

⁸ instruxerat *Boll.*

⁹ Domino F₂

written over. ¹⁰ om. quos F₂. ¹¹ uocauit ac *Boll.* ¹² eius *Boll.* ¹³ diuinamque

pot. *Boll.*; sublimam CF₃F₄. ¹⁴ esse lig. *Boll.* ¹⁵ primum Dei (om.

sancti) F₂. ¹⁶ debent recipi *Boll.* ¹⁷ eff. lac. poen. agentes satisfaciant

Deo *Boll.*; om. agentes CF₃F₄. ¹⁸ ins. enim *Boll.* ¹⁹ ins. et *Boll.*

²⁰ pauperis *Boll.* ²¹ om. qui CF₄. ²² om. sui *Boll.* ²³ Diuitiae *Boll.*

²⁴ congregabit CF₄. ²⁵ iniustus F₄ corr. ²⁶ ang. mort. trah. illum *Boll.*; angelum CF₃F₄.

²⁷ muc'abitur F₂; mulcabitur *Boll.* ²⁸ colubri F₄ corr. *Boll.*; colubris CF₄.

²⁹ comedit *Boll.*; ins. autem F₂. ³⁰ om. his CF₃F₄.

³¹ et *Boll.* ³² si *Boll.* ³³ ins. se autem ipsum perdat *Boll.* ³⁴ detr. an.

suae *Boll.* ³⁵ discurre *Boll.* ³⁶ capere C; carpit *Boll.*

5. Eph. 6, 20; Act. 20, 29; Matt. 7, 16; Ps. 13, 4; 118, 126. 6. Rom. 8, 30; Act. 13, 47; Joh. 15, 16; Matt. 16, 19. 7. Dan. 3, 87. 8. Sir. 34, 23, 24; Job 20, 15; Hab. 2, 6; Matt. 16, 26.

crimen. *Non concupisces rem proximi tui. Non occides. Homicida non potest esse cum Christo. Qui¹ odit fratrem suum homicida² adscribitur.* Uel,³ *Qui non diligit fratrem suum in morte manet.*⁴ Quanto magis reus est qui manus suas coinquinavit⁵ in sanguine filiorum Dei, quos nuper adquisiuit⁶ in ultimis⁷ terrae per exhortationem paruitatis nostrae?

10. Numquid sine Deo, uel *secundum carnem* Hiberione⁸ ueni? Quis me compulit—*Alligatus⁹ spiritu*—ut non¹⁰ uideam aliquem de cognatione mea? Numquid a me¹¹ piam misericordiam quod¹² ago erga gentem illam¹³ qui¹⁴ me aliquando ceperunt,¹⁵ et deuastauerunt¹⁶ seruos et ancillas domus¹⁷ patris mei? Ingenuus fui¹⁸ secundum carnem. Decorione¹⁹ patre nascor. Uendidi enim²⁰ nobilitatem meam—non erubescor neque me²¹ poenitet—pro utilitate aliorum. Denique seruus²² sum in Christo genti exterarum ob gloriam ineffabilem
15 *perennis uitae quae est in Christo Iesu Domino nostro.*

11. Et si mei me²³ non cognoscunt, *propheta in patria sua honorem non habet.* Forte non sumus ex uno ouili,²⁴ neque unum Deum Patrem habemus; sicut ait: *Qui non est conuenit contra me est, et qui non congregat mecum spargit.*²⁵ Non conuenit, *Unus destruit alter*
20 *aedificat. Non²⁶ quaero quae mea sunt.*

Non mea gratia, sed Deus quidem hanc²⁷ sollicitudinem [dedit]²⁸ in corde meo, ut unus²⁹ essem de uenatoribus siue³⁰ piscatoribus quos olim Deus in nouissimis diebus ante praenuntiauit.

12. Inuidetur mihi. Quid faciam Domine? Ualde despicior.
25 Ecce oues tuae circa me laniantur atque depraedantur, et³¹ supradictis latrunculis, iubente Corotico hostili³² mente.³³ Longe est a caritate Dei traditor Christianorum in manus Scottorum atque Pictorum. *Lupi rapaces* deglutierunt gregem Domini qui utique Hiberione cum summa diligentia optime crescebat³⁴; Et filii Scottorum et³⁵ filiae

¹ ins. enim Boll. ² ins. esse Boll. ³ et Boll. ⁴ manet in morte Boll.
⁵ coinquinat Boll. ⁶ conquisiuit Boll. ⁷ ins. finibus Boll.
⁸ Hyberionem Boll. ⁹ ins. sum F₃ Boll. ¹⁰ om. non C. ¹¹ amo Boll.; erased in F₄.
¹² quod erased in F₄. ¹³ illam gentem Boll. ¹⁴ quae Boll. ¹⁵ coepit Boll.
¹⁶ deuastauit Boll. ¹⁷ om. domus Boll. ¹⁸ sum Boll. ¹⁹ nam decurione Boll.
²⁰ autem Boll. ²¹ om. me Boll. ²² om. seruus Boll. ²³ om. me Boll.
²⁴ patre, neque ex uno ouili; sicut ait Dominus, qui &c. Boll.; Deum unum F₄.
²⁵ om. contra-mecum C. ²⁶ num Boll. ²⁷ hanc quidem Boll.
²⁸ So Denis. ²⁹ om. unus Boll. ³⁰ ins. de Boll. ³¹ a Boll.
³² hostile Boll.; hostile CF₃F₄. ³³ ins. enim Boll. ³⁴ cresc. opt. F₄.
³⁵ ac Boll.

9. Rom. 13, 9; 1 Joh. 3, 14, 15; Es. 43, 21. 10. 2 Cor. 1, 17; Act. 20, 22; Rom. 6, 23. 11. Joh. 4, 44; 10, 16; Eph. 4, 6; Matt. 12, 30; Sir. 34, 28; 1 Cor. 13, 5; 2 Cor. 8, 16; Jer. 16, 16; Act. 2, 17. 12. Act. 20, 29.

regulorum monachi et uirgines Christi enumerare nequeo. Quam ob rem iniuria iustorum non te¹ placeat; etiam usque ad inferos non placebit.²

13. Quis sanctorum non horreat iocundare uel conuiuium³ frueretur cum talibus? De spoliis defunctorum Christianorum repleuerunt⁴ domus⁵ suas. De rapinis uiuunt. Nesciunt miseri⁶ uenenum,⁷ letalem⁸ cibum porrigunt ad⁹ amicos et filios suos: sicut Eua non intellexit quod utique¹⁰ mortem tradidit uiro suo. Sic sunt omnes qui male agunt; mortem¹¹ perennem poenam operantur.¹²

14. Consuetudo Romanorum Gallorum¹³ Christianorum—Mittunt¹⁴ uiros¹⁵ sanctos idoneos ad Francos et caeteras¹⁶ gentes cum tot milia¹⁷ solidorum ad redimendos captiuos baptizatos¹⁸; tu toties¹⁹ interficis et uendis illos genti exterarum ignoranti Deum. Quasi in lupanar tradis membra²⁰ Christi. Qualem spem habes in Deum, uel²¹ qui te consentit,²² aut qui te²³ communicat uerbis adulationis²⁴? Deus²⁵ iudicabit; scriptum est enim: *Non solum facientes mala, sed etiam consentientes dampnandi sunt.*

15. Nescio quid dicam uel²⁶ quid loquar amplius de defunctis filiorum Dei quos gladius supra modum dure²⁷ tetigit. Scriptum est enim: *Flete²⁸ cum flentibus.* Et iterum: *Si dolet unum membrum²⁹ condoleant³⁰ omnia membra.* Quapropter ecclesia plorat³¹ et planget³² filios et filias suas quas³³ adhuc gladius nondum³⁴ interfecit, sed prolongati et³⁵ exportati³⁶ in³⁷ longa terrarum,³⁸ ubi peccatum manifeste grauetur, impudenter³⁹ habundat. Ibi uenundati ingenui homines, Christiani in seruitutem⁴⁰ redacti sunt, praesertim indignissimi⁴¹ morum pessimorum apostatarumque Pictorum.⁴²

16. Idcirco cum tristitia et merore uociferabor⁴³: O speciosissimi

¹ tibi F₄ corr. ² qui propter iniur. . . placat . . . placabit Boll. ³ conuiuio F₄ corr. ⁴ frui F₄ corr.; facere Boll. ⁵ domos F₄ corr. Boll. ⁶ misereri Boll. ⁷ ins. bibunt Boll. ⁸ letale CF₃. ⁹ et F₃.
¹⁰ om. utique C. ¹¹ om. tradidit—mortem CF₄. ¹² poenamque perpetuam op. Boll.; operatur F₄ corr. ¹³ ins. que Boll. ¹⁴ presbyteros Boll. ¹⁵ exterarum Boll. ¹⁶ millibus Boll. ¹⁷ baptizat CF₃F₄. ¹⁸ So F₄ corr.; totius CF₃; omnes Boll. ¹⁹ membris F₃. ²⁰ om. uel Boll. ²¹ tecum sentit Boll. ²² om. te Boll. ²³ alienis et adulationi Boll. ²⁴ aut Boll. ²⁵ om. dure Boll. ²⁶ flere Boll. ²⁷ condolent Boll. ²⁸ ploret F₃. ²⁹ plangit Boll. ³⁰ quos Boll. ³¹ nond. glad. hostilis Boll. ³² om. prol. et Boll. ³³ B resumet (exporta § ti). ³⁴ per B. ³⁵ ins. spatia B. ³⁶ ins. impudens ibi habitat et B. ³⁷ seruitute CF₃F₄. ³⁸ pessimorumque atque apostatarum Pict. B. ³⁹ uociferabor F₄.

13. Sir. 9, 17. 13. 2 Cor. 7, 10. 14. 1 Cor. 6, 15; Rom. 1, 32. 15. Joh. 12, 49; 2 Cor. 1, 8; Rom. 12, 15; 1 Cor. 12, 26.

atque amantissimi fratres et filii quos in Christo genui, enumerare nequeo, quid faciam uobis? Non sum dignus Deo¹ neque hominibus subuenire. *Praeualuit iniquitas iniquorum super nos.* Quasi extranei facti sumus. Forte non credunt unum baptismum percepimus² uel³ unum Deum Patrem habemus. Indignum est illis⁴ Hiberia nati sumus. Sicut ait⁵: *Nonne unum Deum habetis? Quid dereliquistis unusquisque proximum suum?*

17. Idcirco doleo pro uobis, doleo, carissimi mihi⁶; sed iterum gaudeo intra meipsum.⁷ Non gratis laboraui uel⁸ peregrinatio mea in uacuum non fuit.⁹ Et contigit scelus tam horrendum¹⁰ et ineffabile! Deo gratias, creduli¹¹ baptizati de saeculo¹² recessistis ad paradysum. Cerno uos. Migrare cepistis ubi *nox non erit, neque luctus, neque mors amplius, sed exultabitis sicut uituli ex uinculis resoluti, et conculcabit iniquos, et erunt cinis sub pedibus uestris.*

18. Uos ergo regnabitis cum apostolis et prophetis atque martyribus¹³; aeterna regna capietis, sicut ipse testatur inquiens¹⁴; *Venient ab oriente et¹⁵ occidente et recumbent cum Abraham et Isaac et Iacob in regno caelorum; Foris canes et uenefici¹⁶ et homicidae; et mendaces et periur¹⁷ pars eorum in stagnum ignis aeterni.*¹⁸ Non merito¹⁹ ait apostolus, *Ubi iustus uix saluus erit, peccator et impius²⁰ transgressor legis ubi se recognoscat²¹?*

19. Unde enim Coroticus cum suis sceleratissimis, rebellatores²² Christi, ubi se uidebunt? qui²³ mulierculas baptizatas²⁴ praemia distribuunt²⁵ ob miserum²⁶ regnum temporale quod utique in momento transeat²⁷ sicut nubes uel *fumus qui utique uento dispergitur.* Ita peccatores²⁸ fraudulent²⁹ a facie Domini peribunt, iusti autem epulentur in magna constantia cum Christo,³⁰ iudicabunt nationes et regibus iniquis dominabuntur in saecula saeculorum, Amen.

¹ om. Deo B.² percipimus CF₃F₄.³ et B.⁴ ins. quod de B.⁵ sic enim aiunt B.⁶ mei F₃F₄.⁷ ins. quia B.⁸ et B.⁹ om. non¹⁰ F₃. ¹¹ scelus illo in tempore horridum B; om. foll. et CF₃F₄. ¹² credentes

et B.

¹³ celo F₃.¹⁴ ins. et B.¹⁵ inquit CF₃F₄.¹⁶ ab F₄.¹⁷ ueneficos CF₃F₄°.¹⁸ mendaces . . . periuri BF₄ corr.; om. et CF₃F₄.¹⁹ aeternae CF₃°.²⁰ immerito F₄ corr.; enim in uanum B.²¹ ins. et B.²² recognoscit CF₃F₄.²³ rebellatoribus BF₄ corr.²⁴ quam CF₃F₄°.²⁵ ins. et predia orphanorum spurcissimis satellitibus suis, om. praemia B.²⁶ So F₄corr.; distribuuntur BCF₃.²⁷ So F₄ corr.; misere B; miserere C; miscere F₃.²⁸ transit B.²⁹ ins. et B.³⁰ ins. et B.

16. Ps. 64, 4; 68, 9; Eph. 4, 5; Mal. 2, 10. 17. Phil. 2, 16; Apoc. 22, 5; 21, 4; Mal. 4, 2. 18. Matt. 8, 11; Apoc. 22, 15; 21, 8; 1 Pet. 4, 18. 19. Sap. 5, 16; Ps. 67, 3.

20. *Testificor coram Deo et¹ angelis suis, quod ita erit sicut intimaui² imperitiæ meae. Non mea uerba,³ sed Dei et apostolorum atque prophetarum, quod⁴ ego⁵ Latinum exposui,⁶ qui numquam⁷ mentiti sunt. Qui crediderit saluus erit,⁸ qui uero non crediderit condemnabitur. Deus enim⁹ locutus est.* b

21. Quaeso plurimum ut quicumque famulus Dei¹⁰ promptus fuerit ut sit gerulus litterarum harum, ut nequaquam subtrahatur a nemine, sed magis potius legatur coram cunctis plebibus, et praesente ipso Corotico. Quod si Deus inspirat illos ut quandoque Deo resipiscant, ita ut¹¹ uel sero poeniteant¹² quod tam impie gesserunt.—¹⁰ Homicida¹³ erga fratres Domini!¹⁴—et liberent captiuas baptizatas quas¹⁵ ante ceperunt, ita ut mererentur¹⁶ Deo uiuere, et sani efficiantur hic et in aeternum. Pax Patri et Filio et Spiritui Sancto, Amen.¹⁷

¹ *ins.* sanctis B. ² intimabit F₃; intimaui^r F₄ *corr.* ³ *ins.* sunt ista B. ⁴ quae B. ⁵ *ins.* in B. ⁶ transtuli B. ⁷ *ins.* enim CF₃F₄.
⁸ Et qui crediderint salui erunt B. ⁹ *om.* enim CF₃F₄. ¹⁰ *ins.* ut CF₃F₄.
¹¹ *om.* ut F₃. ¹² peniteat C; peniteatur F₄ *corr.* ¹³ homicidae F₄ *corr.*
¹⁴ *ins.* fuerunt, sed peniteant B; et *erased* in F₄. ¹⁵ quos CF₄. ¹⁶ mereantur BF₄ *corr.* ¹⁷ Explicit Pass: F₄.

TRANSLATION.

[As far as is possible, in the quotations from the Bible, the rendering of the English Version of 1611 has been followed, except in O. T. Apocrypha, in which the Douay Version of 1609 has been used.]

CONFESSION.

1. I, PATRICK the sinner, am the most rustic and the least of all the faithful, and contemptible in the eyes of very many.

My father was Calpornus, a deacon, a son of Potitus, a presbyter, who belonged to the village of Bannavem Taberniae. Now he had a small farm hard by, where I was taken captive.

I was then about sixteen years of age. I knew not the true God, and I was led into captivity to Ireland with many thousands of persons, in accordance with our deservings, because *we departed away from God, and kept not His commandments*, and were not obedient to our priests, who were wont to admonish us for our salvation. And the Lord *poured upon us the fury of His anger, and scattered us amongst many heathen unto the ends of the earth*, where now my littleness may be seen amongst men of another race.

2. And there the Lord *opened the understanding* of my unbelief that, even though late, I might call to mind my faults, and that I might *turn with all my heart* to the Lord my God who *regarded my low estate*, and pitied the youth of my ignorance, and preserved me before I knew Him, and before I had discernment or could distinguish between good and evil, and protected me and comforted me as a father does his son.

3. Wherefore, I cannot keep silence—nor would it be fitting—concerning such great benefits and such great grace as the Lord has vouchsafed to bestow on me *in the land of my captivity*, because this is *what we can render unto Him*, namely, that after we have been chastened, and have come to *the knowledge of God*, we should exalt and *praise His wondrous works before every nation which is under the whole heaven*.

4. Because there is no other God, nor was there ever any in times past, nor shall there be hereafter, except God the Father unbegotten,

without beginning, from whom is all beginning, Almighty, as we say, and His Son, Jesus Christ, whom we declare to have always existed with the Father before the beginning of the world, with the Father after the manner of a spiritual existence, begotten ineffably, before all beginning. And *by Him* were made *things visible and invisible*. He was made man, and having overcome death He was *received up* into heaven to the Father. And *He gave to Him all power above every name of things in heaven and things in earth, and things under the earth; and let every tongue confess to Him that Jesus Christ is Lord and God* in whom we believe. And we look for His coming, soon to be the Judge of the quick and the dead, *who will render to every man according to his deeds*. And *He shed on us abundantly the Holy Ghost, the gift and earnest of immortality*, who makes those who believe and obey to become *children of God and joint heirs with Christ*, whom we confess and adore as one God in the Trinity of the Holy Name.

5. For He hath Himself said through the prophet: *Call upon me in the day of trouble, I will deliver thee, and thou shalt glorify me*. And again He saith: *It is honourable to reveal and confess the works of God*.

6. Nevertheless, although I am faulty in many things, I wish my *brethren and kinsfolk* to know what manner of man I am, that they may be able to understand the desire of my soul.

7. I do not forget *the testimony of my Lord*, who witnesseth in the Psalm, *Thou shalt destroy them that speak a lie*. And again He saith: *The mouth that believeth killeth the soul*. And the same Lord saith in the Gospel: *The idle word that men shall speak they shall give account thereof in the day of judgment*.

8. Therefore I ought exceedingly, *with fear and trembling*, to dread this sentence in that day when no one will be able to absent himself or hide, but when all of us, without exception, shall have to *give account* of even the smallest sins *before the judgment seat of Christ* the Lord.

9. On this account I had long since thought of writing, but I hesitated until now; for I feared lest I should fall under the censure of men's tongues, because I have not studied as have others, who in the most approved fashion have drunk in both law and Holy Scripture alike, and have never changed their language from the time that they were born, but on the contrary have been always rendering it more perfect.

For my *speech and word* is translated into a tongue not my own, as can easily be proved from the savour of my writing, in what fashion I have been taught and am learned in language; for, saith the Wise Man, *By the tongue will be discovered understanding and knowledge and the teaching of truth.*

10. But what avails an excuse, no matter how true, especially when accompanied by presumption? since now I myself, in mine old age, covet that which in youth I did not acquire, because my sins prevented me from mastering what I had read through before. But who gives me credence although I should repeat the statement that I made at the outset?

When a youth, nay almost a boy in speech [*or, a beardless boy*], I was taken captive before I knew what I should seek, or what I should desire, or what I ought to avoid. And so to-day I blush and am exceeding afraid to lay bare my skillessness. Because, not being learned, I am unable to make my meaning plain in few words; for as the Spirit longs, the affection displays the souls of men, and their understandings.

11. But if I had had the same privileges as others, nevertheless I would not keep silence *on account of the reward*. And if perchance it seems to many that I am thrusting myself forward in this matter with my want of knowledge and *slow tongue*, yet it is written: *The tongue of the stammerers shall quickly learn to speak peace.* How much rather should we covet so to do, who are, he saith, *the epistle of Christ, for salvation unto the ends of the earth*, although not a learned one, yet a most powerful decree, *written in your hearts, not with ink but with the Spirit of the living God.* And again the Spirit witnesseth, *And rusticity was ordained by the Most High.*

12. Whence I who was at first a rustic, an exile, unlearned as everybody knows, who know not how to provide for the future—but this I do know of a certainty that verily *before I was afflicted* I was like a stone lying in *the deep mire*, and *He that is mighty* came, and in His mercy lifted me up, and indeed raised me aloft and placed me on the top of the wall. And therefore I ought to cry aloud that I may also *render somewhat to the Lord* for His benefits which are so great both here and in eternity, the value of which the mind of men cannot estimate.

13. Wherefore then be ye astonished, *ye that fear God, both small and great*, and ye lordly rhetoricians, hear and search out. Who was

it that called up me, fool though I be, out of the midst of those who seem to be wise and skilful in the law, and *powerful in word* and in everything? And me, moreover, who am abominated of this world, did He inspire beyond others—if such I were—only that *with reverence and godly fear* and *unblamably* I should faithfully serve the nation to whom *the love of Christ* conveyed me, and presented me, as long as I live, if I should be worthy; in fine, that I should with humility and in truth serve them.

14. And so it is proper that, *according to the proportion of faith* in the Trinity, we should make doctrinal distinctions, and make known *the gift of God* and *everlasting consolation*, without being held back by danger; to spread everywhere the name of God without fear, confidently; so that even *after my decease* I may leave a legacy to my brethren and sons whom I baptized in the Lord, so many thousands of persons.

15. And I was not worthy, nor such an one, as that the Lord should grant this to His poor servant after calamities and such great difficulties, after a life of slavery, after many years; that He should bestow on me so great grace towards that nation, a thing that formerly, in my youth, I never hoped for nor thought of.

16. Now, after I arrived in Ireland, tending flocks was my daily occupation; and constantly I used to pray in the daytime. Love of God and the fear of Him increased more and more, and faith grew and the spirit was roused, so that in one day I would say as many as a hundred prayers, and at night nearly as many, [even] while I was out in the woods and on the mountain side. Before daybreak I used to be roused to prayer, and I felt no hurt, whether there were snow, frost, or rain; nor was there any sluggishness in me—as I now see, because then *the spirit was fervent* within me.

17. And there verily one night I heard in my sleep a voice saying to me, “Thou fastest well; who art soon to go to thy fatherland.” And, again, after a very short time I heard *the answer of God* saying to me, “Lo, thy ship is ready.” And it was not near at hand, but was, perhaps, distant two hundred miles. And I had never been there, nor did I know anyone there. And thereupon I shortly took to flight, and left the man with whom I had been for six years, and I came in the strength of God who *prospered my way* for good, and I met with nothing to alarm me until I reached that ship.

18. And on the very day that I arrived, the ship left its moorings, and I said that I had wherewith I might sail thence with them, but the shipmaster was angry, and replied harshly with indignation, "On no account seek to go with us."

When I heard this I left them, to go to the hut where I was lodging, and on my way I began to pray, and before I had finished my prayer, I heard one of them shouting loudly after me: "Come quickly, for these men are calling thee"; and straightway I returned to them.

And they began to say to me: "Come, for we receive thee in good faith; make friends with us in any way thou desirest." And so on that day I refused to *suck* their *breasts*, on account of the fear of God; but nevertheless I hoped that some of them would come into the faith of Jesus Christ, for they were heathen, and on this account I continued with them; and forthwith we set sail.

19. And after three days we reached land, and journeyed for twenty-eight days through a desert; and food failed them, and hunger *overcame* them. And one day the shipmaster began to say to me, "What sayest thou, O Christian? Thy God is great and almighty, wherefore then canst thou not pray for us? for we are in danger of starvation. It will be hard for us ever to see a human being again."

Then said I plainly to them, "*Turn earnestly and with all your heart to the Lord my God, to whom nothing is impossible, that this day He may send you food in your journey until ye be satisfied, for He has abundance everywhere.*"

And, by the help of God, so it came to pass. Lo, a herd of swine appeared in the way before our eyes, and they killed many of them; and in that place they remained two nights; and they were well refreshed, and their dogs were sated, for many of them had *fainted*, and were *left half dead* by the way.

And after this they rendered hearty thanks to God, and I became honourable in their eyes; and from that day they had food in abundance. Moreover, they found *wild honey*, and *gave me a piece of it*. And one of them said, "*This is offered in sacrifice.*" Thank God, I tasted none of it.

20. Now on that same night when I was sleeping, Satan tempted me mightily, in such sort as I shall remember *as long as I am in this body*. And there fell upon me as it were a huge rock, and I had no power over my limbs. But whence did it come into my mind to call upon

Helias? And on this I saw the sun rise in the heaven, and while I was shouting "Helias, Helias," with all my might, lo, the splendour of that sun fell upon me, and straightway shook all weight from off me. And I believe that I was helped by Christ my Lord, and that His Spirit was even then calling aloud on my behalf. And I trust that it will be so *in the day of my distress*, as He saith in the Gospel, *In that day*, the Lord witnesseth, *it is not ye that speak, but the Spirit of your Father which speaketh in you.*

21. And again, after many years more, I was taken captive. And so on that first night I remained with them. Moreover I heard *the answer of God* saying to me: "For two months thou shalt be with them." And so it came to pass. On the sixtieth night after, the Lord *delivered me out of their hands.*

22. Moreover He provided for us on our journey food and fire and dry quarters every day until on the tenth day we all reached our destination. As I stated above, for twenty-eight days we journeyed through a desert; and on the night on which we all reached our destination we had in truth no food left.

23. And again, after a few years, I was in Britain with my family, who received me as a son and earnestly besought me that at all events now, after the great tribulations which I had undergone, I would not depart from them anywhither.

And there indeed *I saw in the night visions* a man whose name was Victoricus coming as it were from Ireland with countless letters. And he gave me one of them, and I read the beginning of the letter, which was entitled, The Voice of the Irish; and while I was reading aloud the beginning of the letter I thought that at that very moment I heard the voice of them who lived beside the wood of Foclut, which is nigh unto the Western Sea. And thus they cried, as *with one mouth*, "We beseech thee, holy youth, to come hither and walk among us."

And I was exceedingly *broken in heart*, and could read no more. And so I awoke. God be thanked that after many years the Lord granted to them according to their cry.

24. And another night, whether within me or beside me, *I cannot tell, God knoweth*, in most admirable words which I heard and could not understand, except that at the end of the prayer, He spoke thus: "He who *laid down His life for thee*, He it is who speaketh in thee." And so I awoke rejoicing.

25. And another time I saw Him praying within me, and I was as it were within my body ; and I heard [Him praying] over me, that is over *the inner man*, and there He was praying mightily with groanings. And meanwhile *I was astonished*, and was marvelling and thinking who it could be that was praying within me ; but at the end of the prayer He spoke to the effect that He was the Spirit ; and so I awoke, and I remembered how the apostle saith : *The Spirit helpeth the infirmities of our prayer, for we know not what we should pray for as we ought ; but the Spirit Himself maketh intercession for us with groanings which cannot be uttered, which cannot be expressed in words.* And again, *The Lord our advocate maketh intercession for us.*

26. And when I was tempted by not a few of my elders, who came and [urged] my sins against my laborious episcopate—certainly on that day *I was sore thrust at that I might fall here and in eternity.* But the Lord graciously spared *the stranger and sojourner, for His name's sake*, and He helped me exceedingly when I was thus trampled on, so that I did not fall badly into disgrace and reproach. I pray God that it be not *reckoned to them* as sin.

27. After the lapse of thirty years *they found occasion*, and that against a word that I had confessed before I was a deacon. On account of anxiety, with sorrowful mind I disclosed to my dearest friend what I had done in my youth one day, nay, in one hour, because I was not yet able to prevail. *I cannot tell, God knoweth*, if I was then fifteen years old ; and I did not believe in the living God, nor had I since my infancy ; but I remained in death and in unbelief until I had been chastened exceedingly, and humbled in truth by hunger and nakedness, and that daily.

28. Contrariwise, I did not proceed to Ireland of my own accord *until I was nearly worn out.* But this was rather well for me, because in this way I was corrected by the Lord. And He fitted me, so that I should to-day be something which was once far from me, that I should care for and be busy about the salvation of others, whereas then I did not even think about myself.

29. And so on that day on which I was *disallowed* by the persons whom I have mentioned above, on that night *I saw in the night visions.* There was a writing void of honour opposite my face. And meanwhile I heard *the answer of God* saying to me : “ We have seen with pain the face of him who is designated by name stripped [of its due title] ”

nor did He say thus: "Thou hast seen with pain," but, "We have seen with pain," as if in that matter He had joined Himself with me. As He hath said: *He that toucheth you is as he that toucheth the apple of mine eye.*

30. Therefore I render thanks to Him *who hath strengthened me* in all things, so as not to hinder me from the journey on which I had resolved, and from my labour which I had learnt from Christ my Lord; but rather *I felt in myself* no little *virtus* proceeding from Him, and my *faith has been approved* in the sight of God and men.

31. Wherefore then *I say boldly* that my conscience does not blame me here or hereafter. *God is my witness that I have not lied* in the matters that I have stated to you.

32. But I am the rather grieved for my dearest friend that we should have deserved to hear such an answer as that. A man to whom I had even entrusted my soul! And I ascertained from not a few of the brethren before that *defence*—it was at a time when I was not present, nor was I in Britain, nor will the story originate with me—that he too had fought for me in my absence. Even he himself had said to me with his own lips: "Lo, thou art to be raised to the rank of bishop"; of which I was not worthy. But how did it occur to him afterwards to *put me to shame* publicly before everyone, good and bad, in respect of an [office] which before that he had of his own accord and gladly granted [me], and the Lord too, who is *greater than all*?

33. I have said enough. Nevertheless, I ought not to hide the *gift of God* which He bestowed upon us *in the land of my captivity*; because then I earnestly sought Him, and there I found Him, and He preserved me from all iniquities. This is my belief, *because of His indwelling Spirit* who hath worked in me until this day. *Boldly* again [am I speaking]. But God knoweth if man had said this to me, perchance I would have held my peace for *the love of Christ*.

34. Hence therefore I render unwearied thanks to my God who kept me faithful *in the day of my temptation*, so that to-day I can confidently offer to Him a sacrifice, as a *living victim*, my soul to Christ my Lord, who *saved me out of all my troubles*, so that I may say: *Who am I, O Lord*, or what is my *calling*, that Thou hast disclosed such Divine power to me? so that to-day among the heathen I should steadfastly *exalt and magnify Thy name* wherever I may be; and that not only in

prosperity, but also in afflictions, so that whatever may happen to me, whether good or bad, I ought to receive it with an equal mind, and ever render thanks to God who shewed me that I might trust Him endlessly, as one that cannot be doubted; and who heard me, so that I, ignorant as I am, should *in the last days*, begin to undertake this work so holy and so wonderful; so that I might imitate, in some degree, those whom the Lord long ago foretold would herald His Gospel *for a witness unto all nations before the end of the world*. And accordingly, as we see, this has been so fulfilled. Behold, we are witnesses that *the Gospel has been preached* to the limit beyond which no man dwells.

35. Now, it were a tedious task to narrate the whole of my toil in its details, or even partially. I shall briefly say in what manner the most gracious God often delivered [me] from slavery and from the twelve perils whereby my soul was imperilled, besides many plots, and *things which I am not able to express in words*. Nor shall I weary my readers. But I have as my voucher God who knoweth all things, even before they come to pass, as *the answer of God* frequently warned me, though I was but a poor, humble, *unlearned* orphan.

36. Whence came to me this wisdom, which was not in me, I who neither *knew the number of my days*, nor *savoured* God? Whence afterwards came to me that gift so great, so salutary, the knowledge and love of God, but only that I might part with fatherland and parents?

37. And many gifts were proffered me with weeping and tears. And I displeased them, and also, against my wish, not a few of my elders, but, God being my guide, I did not at all consent or assent to them. It was not my grace, but God who overcometh in me, and He withstood them all, so that I came to the heathen Irish to preach the Gospel, and to endure insults from unbelievers, so as to *hear the reproach of my going abroad*, and suffer many persecutions *even unto bonds*, and that I should give my free condition for the profit of others. And if I should be worthy, I am *ready* [to give] even *my life* for His name's sake unhesitatingly and *very gladly*; and there I desire to *spend* it until I die, if the Lord would grant it to me.

38. Because *I am a debtor* exceedingly to God, who granted me such great grace that many peoples through me should be regenerated to God and afterwards confirmed, and that clergy should everywhere be ordained for them, to a people newly come to belief which the

Lord took from the ends of the earth. As He had in times past promised through His prophets: *The Gentiles shall come unto thee from the ends of the earth, and shall say: As our fathers have got for themselves false idols, and there is no profit in them. And again, I have set thee to be a light of the Gentiles, that thou shouldest be for salvation unto the ends of the earth.*

39. And there I wish to wait for *His* promise who verily never disappoints. As He promises in the Gospel: *They shall come from the east and west, and from the south and from the north, and shall sit down with Abraham and Isaac and Jacob*; as we believe that believers will come from all parts of the world.

40. For that reason, therefore, we ought to fish well and diligently, as the Lord forewarns and teaches, saying: *Come ye after me, and I will make you to become fishers of men.* And again, He saith through the prophets: *Behold, I send fishers and many hunters, saith God, and so forth.*

Wherefore, then, it was exceedingly necessary that we should spread our nets, so that a *great multitude* and a throng should be taken for God, and that everywhere there should be clergy to baptize and exhort a people, poor and needy, as the Lord in the Gospel warns and teaches, saying: *Go ye therefore now, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost: teaching them to observe all things whatsoever I have commanded you: and, lo, I am with you alway, even unto the end of the world.* And again He saith: *Go ye therefore into all the world, and preach the Gospel to every creature. He that believeth and is baptized shall be saved; but he that believeth not shall be damned.* And again: *This Gospel of the kingdom shall be preached in all the world for a witness unto all nations; and then shall the end come.*

And in like manner the Lord, foreshewing by the prophet, saith: *And it shall come to pass in the last days, saith God, I will pour out of my Spirit upon all flesh: and your sons and your daughters shall prophesy, and your young men shall see visions, and your old men shall dream dreams: and on my servants and on my handmaidens I will pour out in those days of my Spirit; and they shall prophesy. And He saith in Osee, I will call them my people, which were not my people; and her that had obtained mercy, which had not obtained mercy. And it shall come to pass that in the place where it was said, Ye are not my people; there shall they be called the children of the living God.*

41. Whence then in Ireland they who never had the knowledge of God, but until now only worshipped idols and abominations—how has there been lately made there *a people* of the Lord, and they are called *children of God*? Sons of the Scots and daughters of chieftains are seen to become monks and virgins of Christ.

42. In especial there was one blessed lady, of Scottic birth, of noble rank, most beautiful, grown up, whom I baptized; and after a few days she came to us for a certain cause. She disclosed to us that she had received an answer by the good pleasure of God, and He warned her to become a virgin of Christ, and live closer to God. Thank God, six days after, most admirably and eagerly she seized on that which all virgins of God do in like manner; not with the consent of their fathers; but they endure persecution and lying reproaches from their parents; and nevertheless their number increases more and more, and we know not the number of our race who are there born again, in addition to widows and continent persons.

But they who are kept in slavery suffer especially. They constantly endure even unto terrors and threats. But the Lord gave grace to many of my handmaidens, for, although they are forbidden, they earnestly follow [the example set them].

43. Wherefore then, even if I wished to part with them, and proceeding to Britain—and glad and ready I was to do so—as to my fatherland and parents, and not that only, but to go as far as Gaul in order to visit the brethren, and to behold the face of the saints of my Lord—God knoweth that I used to desire it exceedingly. Yet *I am bound in the Spirit*, who *witnesseth to me* that if I should do this He would note me as guilty; and I fear to lose the labour which I began, and yet not I, but Christ the Lord, who commanded me to come and be with them for the remainder of my life, *if the Lord will*, and if he should guard me from every evil way, so that I may not *sin in His sight*.

44. Now I hope that I ought to do this, but I do not trust myself *as long as I am in the body of this death*, because he is strong who daily endeavours to turn me away from the faith, and from that chastity of unfeigned religion that I have purposed to keep to the end of my life for Christ my Lord. But *the flesh, the enemy*, is ever dragging us unto death, that is to allurements which end in woe. And *I know in part* wherein I have not led a perfect life, as have other believers; but I confess to my Lord, and I do not blush in His presence, *for I lie not*

when I say that from the time that I knew Him, *from my youth*, there grew in me the love of God and the fear of Him, and unto this hour, the Lord being gracious to me, *I have kept the faith.*

45. Let who will laugh and insult, I shall not be silent nor conceal the signs and wonders which were ministered to me by the Lord many years before they came to pass, since He knoweth all things even *before the world began.*

46. Therefore I ought without ceasing to render thanks to God who oftentimes pardoned my folly and carelessness, and that not in one place only, so that He be not exceedingly wroth with me, I, who have been given to Him as *a fellow-labourer*; and yet I did not quickly assent in accordance with what had been shewn to me, and as the Spirit *brought to my remembrance.* And the Lord *showed mercy upon me thousands of times*, because He saw in me that I was ready, but that I did not know what was due by me in return for these blessings; what, in fact, I should do about my position, because many were forbidding this embassy. Moreover they were talking amongst themselves behind my back, and saying, "Why does this fellow thrust himself into danger amongst enemies who have no knowledge of God?" They did not say this out of malice, but it did not seem meet in their eyes, on account of my rusticity, as I myself witness that I have understood. And I did not quickly recognise the grace that was then in me. Now that seems meet in mine eyes which I ought to have done before.

47. Now, therefore, I have simply disclosed to my brethren and fellow-servants, who have believed me, for what reason *I told you before, and foretell you* to strengthen and confirm your faith. Would that you, too, would imitate greater things, and do things of more consequence. This will be my glory, for *A wise son is the glory of his father.*

48. You know, and God also, in what manner *I have lived from my youth* with you, in the faith of truth and sincerity of heart. Moreover, as regards those heathen amongst whom I dwell, I have kept faith with them, and will keep it. God knoweth, I have *defrauded* none of them, nor do I think of doing it, for the sake of God and His Church, lest I should *raise persecution* against them and all of us, and lest through me the name of the Lord should be blasphemed; for it is written, *Woe to the man through whom the name of the Lord is blasphemed.*

49. *But though I be rude in all things*, nevertheless I have endeavoured in some sort to keep watch over myself, even as regards the Christian brethren, and the virgins of Christ, and the religious women who used of their own accord to present me with their little gifts, and would throw off their ornaments upon the altar, and I returned them again to them. And they were scandalized at my doing so. But I did it on account of the hope of immortality, so as to keep myself warily in all things, for this reason, namely, that the heathen might *receive* me and the ministry of my service on any grounds, and that I should not, even in the smallest matter, give occasion to the unbelievers to defame or disparage.

50. Perchance, then, when I baptized so many thousands of men, I hoped, from any one of them even as much as the half of a scruple? *Tell me, and I shall restore it to you.* Or when the Lord ordained clergy everywhere by means of my mediocrity, and I imparted my service to them for nothing, if I demanded from one of them even the price of my shoe; *tell it against me, and I shall restore you more.*

51. *I spent for you* that they might *receive* me, and both amongst you, and wherever I journeyed for your sake, through many *perils*, even to outlying regions beyond which no man dwelt, and where never had anyone come to baptize or ordain clergy, or confirm the people, I have, by the bounty of the Lord, done everything, carefully and *very gladly*, for your salvation.

52. On occasion, I used to give presents to the kings, besides the hire that I gave to their sons who accompany me, and nevertheless they seized me with my companions. And on that day they most eagerly desired to kill me, but my time had not yet come. And everything they found with us they plundered, and they bound me myself with irons. And on the fourteenth day the Lord freed me from their power, and whatever was ours was restored to us for the sake of God, and the *near friends*, whom we had provided beforehand.

53. Moreover, ye know by proof how much I paid to those who acted as guides through all the districts which I more frequently visited; for I reckon that I distributed to them not less than the price of fifteen men, so that ye might *enjoy* me, and I might ever *enjoy you* in God. I do not regret it, nor is it enough for me. *Still I spend and will spend more.* The Lord is mighty to grant to me afterwards to be myself *spent for your souls.*

54. Behold, *I call God for a record upon my soul that I lie not*, nor would I write to you that there may be an *occasion for flattering words or covetousness*, nor that I hope for honour from any of you. Sufficient is the honour which is not yet seen, but is believed on in the heart. And *faithful is He that promised, never does He lie.*

55. But I see that already *in this present world* I am exalted *above measure* by the Lord. And I was not worthy nor such an one as that He should grant this to me; since I know of a surety that poverty and affliction become me better than riches and delights. But Christ, too, the Lord, was *poor* for our sakes: I indeed am wretched and unfortunate, though I should wish for wealth, now I have it not, *nor do I judge mine own self*, for daily I expect either slaughter or to be defrauded, or be reduced to slavery, or an unfair attack of some kind. *But none of these things move me*, on account of the promises of heaven, because I have cast myself into the hands of God Almighty, for He rules everywhere, as saith the prophet: *Cast thy care upon God, and He shall sustain thee.*

56. Behold, now *I commit the keeping of my soul to my most faithful God, for whom I am an ambassador* in my ignoble state, only because He *accepteth no man's person*, and chose me for this duty that I should be a minister, *one of His least.*

57. Whence then *shall I render unto Him for all His benefits* towards me? But what shall I say, or what shall I promise to my Lord? For I see nought except what He Himself has given to me; but *He trieth the hearts and reins*. Because enough, and more than enough, do I desire, and was ready, that He should grant me to *drink of His cup*, as He permitted to others also who love Him.

58. Wherefore let it not happen to me from my God that I should ever part with His *people which He purchased* in the ends of the earth. I pray God to give me perseverance, and to deign that I render myself to Him as a faithful witness until my passing hence for the sake of my God.

59. And if I ever imitated anything good for the sake of my God whom I love, I pray Him to grant to me that I may shed my blood with those *strangers* and captives for His name's sake, even though I should lack burial itself, or that in most wretched fashion my corpse be divided limb by limb to dogs and wild beasts, or that *the fowls of the air* eat it. Most surely I deem that if this should happen to

me I have gained my soul with my body, because without any doubt we shall rise on that day in the brightness of the sun, that is, in the glory of Christ Jesus our Redeemer, as *sons of the living God and joint-heirs with Christ*, and *conformed to His image* that will be, *since of Him and through Him and in Him are all things*. *To Him be glory for ever and ever*. Amen. For in Him we shall reign.

60. For that sun which we behold, by the command of God, rises daily for our sakes; but it will never reign, nor will its splendour *endure*; but all those who worship it shall go in misery to sore punishment. We, on the other hand, who believe in and worship the true sun, Christ, who will never perish, nor will anyone *who doeth His will*, but he will *abide for ever*, as Christ *will abide for ever*, who reigneth with God the Father Almighty and with the Holy Spirit, before the worlds, and now, and for ever and ever. Amen.

61. Lo! again and again I shall briefly set forth the words of my confession. *I testify* in truth, and in exaltation of heart *before God and His holy angels*, that I never had any cause except the Gospel and His promises for ever returning to that nation from whence previously I scarcely escaped.

62. But I pray those who believe and fear God, whosoever shall have deigned to look upon or receive this writing which Patrick the sinner, unlearned as everybody knows, composed in Ireland, that no one ever say it was my ignorance that did whatever trifling matter I did, or proved in accordance with God's good pleasure, but judge ye, and let it be most truly believed that it was *the gift of God*. And this is my confession before I die.

EPISTLE.

1. I, PATRICK the sinner, unlearned as everybody knows:—I confess that I have been appointed a bishop in Ireland. Most assuredly I deem that *I have received from God what I am*. And so I dwell in the midst of barbarous heathen, a *stranger* and exile for the love of God. He is witness if this is so. Not that I desired to utter from my mouth anything so harshly and so roughly; but I am compelled, roused as I am by *zeal for God and for the truth of Christ*; by love for my nearest friends and sons, for whom I have *not regarded* my fatherland and parents, yea, and *my life unto death*. I have vowed to my God to teach the heathen if I am worthy, though I be despised by some.

2. With mine own hand have I written and composed these words to be given and delivered and sent to the soldiers of Coroticus;—I do not say to my fellow-citizens or to the fellow-citizens of the holy Romans, but to those who are fellow-citizens of demons because of their evil works. Behaving like enemies, they are dead while they live, allies of the Scots and apostate Picts, as though wishing to gorge themselves with the blood of innocent Christians, whom I, in countless numbers, begot to God, and confirmed in Christ.

3. On the day following that on which the newly-baptized, in white array, were anointed—it was still fragrant on their foreheads, while they were cruelly butchered and slaughtered with the sword by the above-mentioned persons—I sent a letter with a holy presbyter, whom I taught from his infancy, clergy accompanying him, with a request that they would allow us some of the booty, or of the baptized captives whom they had taken. They jeered at them.

4. Therefore I know not what I should the rather mourn, whether those who are slain, or those whom they captured, or those whom the Devil grievously ensnared. In everlasting punishment they will become slaves of hell along with him, for verily *whosoever committeth sin is a bondservant*, and is called a *son of the Devil*.

5. Wherefore let every man that feareth God know that aliens they are from me and from Christ my God, *for whom I am an ambassador*; patricide, fratricide! *ravening wolves eating up the people of the*

Lord as it were bread. As he saith : *O Lord, the ungodly have destroyed thy law*, which in the last times He had excellently and kindly planted in Ireland, and it was builded by the favour of God.

6. I make no false claim. I have part with those whom *He called and predestinated* to preach the Gospel amidst no small persecutions, even unto the ends of the earth, even though the enemy casts an evil eye on me by means of the tyranny of Coroticus, who fears neither God nor His priests whom *He chose*, and to whom He granted that highest divine sublime power, that *whom they should bind on earth should be bound in heaven*.

7. Whence therefore, *ye holy and humble men of heart*, I beseech you earnestly, it is not right to pay court to such men, nor to take food or drink with them, nor ought one to accept their almsgivings, until by doing sore penance with shedding of tears they make amends before God, and liberate the servants of God and the baptized hand-maidens of Christ, for whom He died and was crucified.

8. *The Most High approveth not the gifts of the wicked. He that offereth sacrifice of the goods of the poor is as one that sacrificeth the son in the presence of his father. The riches, he saith, which he hath gathered unjustly will be vomited up from his belly. The angel of death draggeth him away. He will be tormented by the fury of dragons. The viper's tongue shall slay him; unquenchable fire devoureth him. And therefore, Woe to those who fill themselves with what is not their own. Or again, What is a man profited, if he shall gain the whole world, and lose his own soul?*

9. It would be tedious to discuss or declare [their deeds] one by one, [and] to gather from the whole law testimonies concerning such greed. Avarice is a deadly sin : *Thou shalt not covet thy neighbour's goods. Thou shalt do no murder. A murderer cannot be with Christ. He that hateth his brother is reckoned as a murderer. Or, again, He that loveth not his brother abideth in death.* How much more guilty is he that hath stained his hands with the blood of the sons of God whom he recently purchased in the ends of the earth through the exhortations of my littleness.

10. Did I come to Ireland without God, or according to the flesh? Who compelled me—I am bound in the spirit—not to see any one of my kinsfolk? Is it from me that springs that godly compassion which I exercise towards that nation who once took me captive and harried

the menservants and maidservants of my father's house? I was freeborn according to the flesh. I am born of a father who was a decurion, but I sold my noble rank, I blush not to state it, nor am I sorry, for the profit of others. In short, I am a slave in Christ to a foreign nation on account of the unspeakable glory of the *eternal life which is in Christ Jesus our Lord.*

11. And if my own know me not, *a prophet hath no honour in his own country.* Perchance we are not of *one and the same fold* nor have *one God and Father.* As He saith: *He that is not with me is against me, and he that gathereth not with me scattereth abroad.* It is not meet that *one pulleth down and another buildeth up.* *I seek not mine own.*

It was not my own grace but God that *put this earnest care into my heart,* that I should be one of the *hunters or fishers* whom long ago God foretold would come *in the last days.*

12. Men look askance at me. What shall I do, O Lord? I am exceedingly despised. Lo, around me are Thy sheep torn to pieces and spoiled, and that too by the robbers aforesaid, by the orders of Coroticus with hostile intent. Far from the love of God is he who betrays Christians into the hands of the Scots and Picts. *Ravening wolves* have swallowed up the flock of the Lord, which verily in Ireland was growing up excellently with the greatest care. And the sons of Scots and the daughters of chieftains who were monks and virgins of Christ I am unable to reckon. Wherefore, *Be not pleased with the wrong done by the unjust; even unto hell it shall not please thee.*

13. Which of the saints would not shudder to jest or feast with such men? They have filled their houses with the spoil of dead Christians. They live by plunder. Wretched men, they know not that it is poison, they offer the deadly food to their friends and sons: just as Eve did not understand that verily it was death that she handed to her husband. So are all they who do wrong. They *work death eternal* as their punishment.

14. The custom of the Roman Christian Gauls is this:—They send holy and fit men to the Franks and other heathen with many thousands of solidi to redeem baptized captives. Thou slayest as many and sellest them to a foreign nation that knows not God. Thou deliverest *the members of Christ* as it were to a brothel. What

manner of hope in God hast thou, or whose consents with thee, or who holds converse with thee in words of flattery? God will judge; for it is written, *Not only those who commit evil, but those that consent with them, shall be damned.*

15. I know not *what I should say, or what I should speak* further about the departed ones of the sons of God, whom the sword has touched sharply *above measure*. For it is written: *Weep with them that weep*, and, again, *If one member suffer, let all the members suffer with it*. The Church, therefore, bewails and will lament her sons and daughters whom the sword has not as yet slain, but who are banished and carried off to distant lands where sin openly oppresses, and shamelessly abounds. There freemen are put up for sale, Christians are reduced to slavery, and, worst of all, to most shameful, most vile, and apostate Picts.

16. Therefore, in sadness and grief shall I cry aloud. O most lovely and beloved brethren, and whom I begot in Christ, I cannot reckon them, what shall I do for you? I am not worthy to come to the aid of either God or men. *The wickedness of the wicked hath prevailed against us. We are become as it were strangers*. Perchance they do not believe that we received *one baptism*, or that we have *one God and Father*. It is in their eyes a shameful thing that we were born in Ireland. As He saith, *Have ye not one God? Why do ye, each one, forsake his neighbour?*

17. Therefore I grieve for you, I grieve, O ye most dear to me. But again, I rejoice within myself. *I have not laboured for nought*, and my journey to a strange land was not *in vain*. And yet, there happened a crime so horrid and unspeakable! Thank God, it was as baptized believers that ye departed from the world to paradise. I can see you. Ye have begun to remove to where *there shall be no night nor sorrow nor death any more*, but *ye shall leap like calves loosened from their bonds*, and *ye shall tread down the wicked*, and *they shall be ashes under your feet*.

18. Ye therefore shall reign with apostles, and prophets, and martyrs. Ye shall take everlasting kingdoms, as He Himself witnesseth, saying: *They shall come from the east and west, and shall sit down with Abraham and Isaac and Jacob in the kingdom of heaven. Without are dogs and sorcerers and murderers; and liars and false swearers shall have their part in the lake of everlasting fire*. Doth not

the apostle rightly say : *Where the righteous shall scarcely be saved, where shall the sinner and the ungodly transgressor of the law recognize himself?*

19. Wherefore then, where shall Coroticus with his guilty followers, rebels against Christ, where shall they see themselves—they who distribute baptized damsels as rewards, and that for the sake of a miserable temporal kingdom, which verily passes away in a moment like a cloud or *smoke which is verily dispersed by the wind?* So shall the deceitful *wicked perish at the presence of the Lord, but let the righteous feast* in great constancy with Christ. They shall judge nations, and shall have dominion over ungodly kings for ever and ever. *Amen.*

20. *I testify before God and His angels* that it will be so as He has signified to my unskilfulness. The words are not mine, but of God and the apostles and prophets who have never lied, which I have set forth in Latin. *He that believeth shall be saved, but he that believeth not shall be damned.* For God hath spoken.

21. I beseech earnestly that whatever servant of God be ready that he be the bearer of this letter, so that on no account it be suppressed by anyone, but much rather be read in the presence of all the people, yea, in the presence of Coroticus himself, if so be that God may inspire them to amend their lives to God some time, so that even though late they may repent of their impious doings (murderer as he is in regard of the brethren of the Lord!), and may liberate the baptized women captives whom they had taken, so that they may deserve to live to God, and be made whole, here and in eternity.

Peace to the Father, and to the Son, and to the Holy Ghost.
Amen.

NOTES ON THE TEXT.

Title.—Although the titles *Confessio* and *Epistola* are here applied to these two little works respectively, in accordance with established usage, yet it is probable that they were originally known as *Libri Sancti Patricii Episcopi*, the title we find in A. This is supported by the colophon of the Confession in CF₄F₄, *Explicit liber i, Incipit liber ii*, and by the Vitae, which refer to them as *Libri*, or *Liber Epistolarum* (so Vitae iii. 11; iv. 1; Trip. pp. 10, 18), or *Libri* or *Liber Episcopi* (so Vitae ii. 4, 11; iii. 4). The special name *Confessio* found in the titles of *Liber i.* in CF₄F₄ is one of the many indications of the affinity of those three mss. It is possible that the scribe of B, in using the term *Uita Beati Patricii*, was influenced by Vita iv. 16, in which § 16 of this edition is cited as *in libro quem de uita et conuersatione sua ipse composuit*.

P. 235, l. 2.—*Patricius*.—According to Muirchu (B), cap. 1, he was also named Sochet: "Patricius qui et Sochet uocabatur." So the Hymn of St. Fiacc, "Sucat his name [it] was said." This was "his name from his parents" (Vit. Trip., p. 17). A note on St. Fiacc's Hymn, quoted *Vit. Trip.*, p. 413, explains Sucat as, *Deus belli, uel Fortis belli*. Tírechán assigns him four names: "Inueni iiii nomina in libro scripta Patricio apud Ultanum episcopum Conchuburnensium: Sanctus Magonus, qui est clarus, Succetus qui est... Patricius... Cothirthiacus quia seruiuit uii [iu] domibus magorum. Et empit illum unus ex eis cui nomen erat Miliuc maccu-Boin magus, et seruiuit illi uii annis." The Tripartite Life (p. 17) adds to this that Patrick received the name Magonius from Saint Germanus, and that of "Patricius, that is, *pater ciuium*, from Pope Celestine." So too the Preface to the Hymn of St. Sechnall. It is possible that the name *Patricius* is indicative of *curialis* rank.

P. 235, l. 2.—*Peccator* is a self-depreciatory epithet of Patricius. Cf. "Patricius peccator indoctus scilicet," Conf. 62, Ep. 1. Compare *Dionysius Exiguus*.

P. 235, l. 2.—*Rusticissimus*.—Cf. §§ 11, 12, 46.

P. 235, l. 3.—*Contemptibilis sum*.—In A the words *apud plurimos* close a paragraph which is followed by a space, such as is that between the last words of the Confession and the appended note. This is a strong argument in favour of the reading *contemptibilis sum*. On the other hand, the superlative is most in accordance with Patrick's hyper-

bolical style; and it is not natural to take *apud plur.* in connection with *rust. et min.* He was *rusticissimus et minimus omn. fid.* in his own estimation, *contemptibilissimus* in that of others.

P. 235, l. 4.—*Calpornum diaconum*, &c.—According to Ep. 10, Patrick's father was a decurio in his native village, as well as a deacon of the church: "Ingenuus fui secundum carnem, decorione patre nascor." Muirchu (B), cap. 1, repeats the statement of the Confession as to the ecclesiastical rank of Calpornus ("Cualfarni diaconi ortus") and Potitus; Marianus Scotus, in his Chronicle, Ann. 372, reverses it: "Presbyter fuit ipse Calpurn, filius diaconi nomine Fotid." Similarly Vit. Trip., p. 9; while the Hymn of St. Fiacc suppresses the fact that Patrick's father and grandfather were both in Holy Orders: "Son of Calpurn, son of Otide, grandson of deacon Odisee." The same pedigree is also found in the Leabhar Breac twice, and in the Book of Leinster.

If Odissus were a deacon, this would be a sufficient objection to the insertion of the words *filius Odissi* (A^{ms}.) after *Potiti*, since *presbyteri* would naturally be taken with *Odissi*, not with the remoter antecedent. The Preface (B) to the Hymn of St. Sechnall agrees with Marianus Scotus in the statement that Potitus was a deacon, not a presbyter. The words are: "As to Patrick, his origin was of the Britons of Hercluaide: Calpurn was his father's name; Fotaid his grandfather's, who was a deacon; Conchess, further, was his mother; Lupait and Tigris were his two sisters."

Patrick's mother's name is also given by Muirchu (B), cap. 1: "matre etiam conceptus Concesso nomine," and the Vita iv. 1, which quotes as if from the Confessio: "Ipse testatur lib. Epist., *Ego sum Patricius Kalfurnii filius matrem habens Conchessam.*" Marianus Scotus adds, l. c., that she was sister to St. Martin of Tours. "She was a kinswoman of Martin's." (Vit. Trip., p. 9.)

The reading of B, *Calpurnium diaconem quondam*, is intended to suggest that Calpurnius had renounced his orders before his marriage. Jocelin, on the other hand (Vita vi. 1), represents his ordination as having taken place after the birth of his children.

P. 235, l. 4. *Filium quondam*.—"A son." The reading *quondam*, "son of the late Potitus," is pointless.

P. 235, l. 5.—*Qui fuit uico* is also the reading of Muirchu (B), cap. 1.

P. 235, l. 5.—*Bannaum Tabernias*.—The most ancient comment on this name is that given by Muirchu (B), cap. 1, "Bannaum thaburindec haut procul a mari nostro, quem uicum constanter indubitanterque

comperimus esse Uentre." This last clause is quoted by Probus, (Vita v. 1), with the change of *Uentre* into *Neutrias provincias*. Muirchu has previously stated that Patrick was "in Britannis natus." It is not unreasonable to suppose that Muirchu's *Uentre* is another form or a corruption of the name *Nemthur*, which is stated to have been Patrick's birthplace in the Hymn of St. Fiacc: "Patrick was born in Nemthur; this is what is narrated in stories."

A note on this opening line of the hymn explains Nemthur as "a city which is among Britons of the North, viz. Ail-cluáde"; and with this agrees the Preface (B) to the Hymn of St. Sechnall, quoted above, "As to Patrick, his origin was of the Britons of Her-cluáide." Ail-cluáde, or Her-cluáide, is Dumbarton on the Clyde. Hogan (*Analect. Boll.* i., p. 549), following Ussher (*op. cit.*, p. 819), identifies Bannauem with Killpatrick, near Dumbarton. Todd (*St. Patrick*, p. 357) quotes Lanigan as having suggested that Bonauem, as they spell it, might, as a Celtic word, be possibly translated *river's mouth*. There is a full discussion of the subject in an article by Bishop P. F. Moran in *The Dublin Review*, April, 1880. See also *Irish Liber Hymnorum*, ii., p. 176.

It is right to mention that Mr. E. W. B. Nicholson published in *The Academy* of 11th May, 1895, a very ingenious conjecture that *bannauem Tabernias* (last word written *tabnis* in F₂) is a mistake for *bannauētabrniae*, i.e., *Bannauenta Britannias*, which he identifies with Borough Hill, near Daventry in Northamptonshire. Similarly F. Haverfield in *Eng. Hist. Review*, Oct. 1895. Daventry is in the very centre of England; and this certainly does not agree with Muirchu's description of *Uentre* as "haut procul a mari nostro." It is, perhaps, worth noting too that the intense dislike which Patrick displays towards the Picts ("præsertim indignissimorum pessimorum apostatarumque Pictorum," Ep. §§ 2, 15) is most naturally accounted for if we suppose him to have lived near them. Besides, he would have written *Britanniarum*.

P. 235, l. 6. *Capturam dedi*.—This peculiar phrase occurs again, Conf. §§ 10, 21. B has the emendation *didioi* here and in § 10. Denis has the following note on his own reading, in *capturam decidi*: "Ita hæc verba citat auctor Vitæ iv. apud Colganum: egraphum nostrum habebat *capt. dedi*: Usserus, pag. 832, *capt. didioi*." A reference to Ussher's work, *Brit. Eccles. Ant.*, l.c., shows that Denis has here made a slip. Ussher gives the reading *dedi*. It is possible that Patrick coined the phrase on the analogy of Ps. lxxvii. 18, "Cepisti captiuitatem."

P. 235, l. 7. *Annorum—xvi*.—The reading of R, *quindocim*, is

intended to suggest that Patrick's captivity immediately followed the sin committed, as he tells us (§ 27), at the age of fifteen.

P. 235, l. 8. *Hiberione*.—This form occurs also in Conf. 16, 23, 28, 41, 62; Ep. 1, 5, 10, 12; *Hiberia*, Ep. 16; *Vox Hyberionacum*, Conf. 23; *Ad Hibernas gentes*, Conf. 37.

P. 235, l. 8. *Tot milia hominum* occurs again, Conf. 14, 50; cf. Ep. 14, "Cum tot milia solidorum."

P. 235, ll. 11, 12. *Iram animationis suae*.—The emendation *indignationis* in B is intended to bring the quotation into exact agreement with the text of Ps. lxxvii. 49. But the words really are cited from Isaiah xlii. 25.

P. 235, l. 13. *Paruitas mea*.—There are several such periphrases for *ego* in these tracts, e.g., "Paruitas nostra," Ep. 9; "Incredulitas mea," Conf. 2; "Ignorantia mea," Conf. 2, 62 ("Mea ign."); "Mea gratia," Conf. 37, Ep. 11; "Insipientia mea," Conf. 46; "Neglegentia mea," Conf. 46; "Modicitas mea," Conf. 50; "Imperitia mea," Ep. 20.

P. 235, l. 14. *Aperuit sensum incredulitatis meae*.—*Incredulitas mea* is best taken as a periphrasis for *ego*. The insertion of the words *cordis mei* is consequently not necessary to complete the sense. It was possibly due to a desire to see a reference to Jer. iv. 19, "Sensus cordis mei," and Heb. iii. 12, "Cor malignum incredulitatis." The phrase *adulescentiae ignorantiae meae* just below was similarly a stumbling-block to later copyists. Note that B differs from the others in its method of getting over it.

P. 236, l. 2.—*Consolatus = consolatus*, as always in A. It is therefore better to read *me* than *mei*, in order to avoid misunderstanding.

P. 236, ll. 5, 6. *Ut . . . exaltare*.—*Ut* is followed by an infinitive also in Conf. 14, "Ut . . . relinquere," and Conf. 43, "Ut . . . uisitare."

P. 236, l. 10. *Omnia tenentem*.—*Omnitenens* is found in Tertullian and St. Augustine as the rendering of παντοκράτωρ, Almighty.

P. 236, l. 18.—CF₃F₄ punctuate: *ipsius. Mox futurum, &c.*

P. 237, l. 10.—*In die illa*.—*Dies* (sing.) is feminine also in Conf. 16, 18 (only read in A), 19 (bis in rell.) 27, 33 (CF₃F₄), 42, 52, 59. Ep. 3. It is masc. in Conf. 19 (A), 26, 29, 33 (Boll.) 52.

P. 237, l. 14. *No incoderem in linguam hominum*.—*Incoderem = inciderem*, as R writes it. Todd (*St. Patrick*, p. 311) renders the phrase, "I was afraid of falling upon the language of men [i.e. I was afraid of attempting to write in the language of the civilized world]"; and W. Stokes (*Vit. Trip.*, p. 359) explains it, "I feared offending against [doing violence to] the language of men." Both these explanations seem rather forced. It means rather, as Ferguson renders it, "I

feared Lest I should fall in censure of men's tongues." The phrase is possibly modelled on 2 Sam. xxiv. 14, "Melius est ut incidam in manus Domini . . . quam in manus hominum." Dr. Gwynn compares:

"On evil days though fall'n, and evil tongues."—*Par. Lost*, vii. 26.

P. 237, ll. 15, 16. *Qui optime—combiberunt*.—Prof. Bury "suspects that *itaque* has got out of its place, and should precede *dedici*: *itaque—sicut*, as in p. 238, l. 6. But if the text is sound, p. 239, l. 14, should be compared, where it seems to have somewhat the force of the German 'also.'" The sense is well given by Sir Samuel Ferguson:—

"Who, excellently versed in civic law,
And sacred letters, in a like degree."

Iura is a necessary emendation: see § 13, "legis periti."

P. 237, l. 17. *Sermo et loquela*, in S. John viii. 43, are the translation respectively of λόγος and λαλιά; but it is not likely that the distinction in meaning of the two words was present to Patrick's mind.

P. 237, l. 18. *In linguam alienam*.—It is not clear whether he means Latin or Irish. The latter is probable from the fact that he speaks (Conf. 1) of the Irish as *alienigenas*.

P. 237, l. 19. *Saliua*.—Ferguson, "By the savour of the style I use." Cf. Aug., *Opp.*, tom. 3, p. 395, a. 1., "Et ab altera, ut credo, salia oris eius uicem laborem causam suscepit."

P. 237, l. 26. *Quod ante praefatus sum*.—Viz., concerning the early age at which his education was interrupted. He proceeds now to repeat the fact with emphasis.

P. 238, l. 1. *In uerbis*.—The substitution of *u* for *b* is common in mss.; and it has been very generally thought that the true reading here is *imberbis* or *inberbis* (so Ware). However, *in uerbis* gives a good sense, whether we connect *puer in uerbis*, 'a boy in language,' or, as in B, *in uerbis capt. dedi*, 'I went into bondage in language as well as limb.'

P. 238, l. 4. *Non desertus*.—This is practically the conjecture of W. Stokes, who reads *disertus*. It is to be noted, however, that in A *desertus* = 'learned' (see l. 11 "etsi non deserta"), but *disertum* = 'a desert': e.g. §§ 19, 22, "Per disertum iter fecimus"; *desertus* is also nearer in form to *desertis* (A).

P. 238, l. 4. *Sermonem*.—So present editor. The contraction bar which denotes *m* or *n* is easily forgotten by a scribe, or obliterated.

P. 238, l. 5. *Spiritus . . . adfectus*.—*Adfectus* in the sphere of the human corresponds to *Spiritus* in the sphere of the divine.

P. 238, l.⁶8. *Aliquantos*.—I.e. the *aliquanti seniores* of §§ 26, 37.

P. 238, l. 10. *Adpetere debemus* refers to § 10, "Adpeto in senectute mea," &c.

P. 238, l. 12. *Ratum fortissimum*.—*Ratum* occurs in Ducange (*Glossarium Medias et Infimas Latinitatis*) in the sense *deliberatum, constitutum*. *Fortissimum* is possibly an echo of 2 Cor. x. 10, "Epistolae inquit graues sunt et fortes." It is also possible that *ratum* may be a trace of an original reading, *ministratum* or *ministrata*. This word occurs in 2 Cor. iii. 3, which is quoted in the context.

P. 238, l. 15. *Unde ego*, &c.—The sentence is incomplete; *nescio* suggested *scio*. For *primus*, Prof. Bury conjectures *imus*.

P. 238, l. 24. *Dominicati*.—The term *domni* (CF₃F₄) was applied to Church dignitaries. *Dominicatus* is the adj. of *dominicum*, 'a demeane': "Lords of the land" (Ferguson). Ducange does not give any instance of the word as applied to persons. Prof. Bury says, "It is simply *domini cati*, 'clever, or smart, sirs.'" *Domini ignari* is a plausible reading, suggesting that Patrick had two classes of scoffers in view: those who were religious, and those who were not.

P. 238, § l. 26. *Detestabilem huius mundi*.—"The butt of this world's scorn" (Ferguson).

P. 239, l. 8. *Exagallas*.—This is almost certainly the same as *exagella*, which is thus explained by Ducange—"Trutina, seu potius quota pars quae unicuique haeredum ex successione obuenerit: legitima pars haeredis, cum aliis ueluti ad *exagium* seu trutinam exaequata." The word thus passes from the meaning of *balances* to that of *legacy*.

P. 239, l. 9. *Baptisauit tot milia hominum*.—The same claim is made in identical terms in § 50: cf. § 42, "Nescimus numerum eorum"; Ep. 2, "Quos ego innumeros Deo genui"; Ep. 12, 16, "Enumerare nequeo."

P. 239, l. 11. *Concederet*.—Prof. Bury conjectures *concederet, et post*, &c.

P. 239, l. 12. *Quod ego*, &c.—*Quod* is constantly used by Patrick as an indeclinable relative; e.g. Conf. 20, "Quod memor ero"; 30, "De mea opera quod dediceram"; 32, "Defensionem quod ego non interfui" . . . "Quod non eram dignus"; Ep. 10, "Misericordiam quod ago"; 20, "Uerba quod ego Latinum exposui."

P. 239, l. 14. *Sed*.—Ferguson explains *sed* here and in p. 241, l. 17, as equivalent to the Irish *acht* = *nisi*. He connects *sed deueneram* with the preceding words, "such grace As, till I came to Ireland, I nor knew Nor ever hoped."

P. 239, l. 14. *Pecora pascebam*.—*Pecora* more naturally denotes *oues*

than *sues*. Tírechán, however, says positively "Miliuc . . . porcarium possuit eum in montanis convallibus." And also Muirchu (A), ii., cap. 14, "Aliquando *sues* custodiens perdidit eas, et anguelus ueniens ad eum *sues* indicauit illi."

P. 239, l. 23. *Ad patriam tuam*.—The addition in *rell.*, *et terram* is evidently a corruption of *et iterum*. Muirchu gives the oracle as in A.

P. 239, l. 25. *Parata est*.—Tírechán adds: "Surge et ambula."

P. 239, l. 25. *Habebat* = *il-y* avait (W. Stokes).

P. 240, l. 1. *Intermissi*.—This must mean 'I left'; but the usage is unparalleled. Ferguson notes that it is "as if the thought expressed in this singular use of *intermitto* had been conceived in some form of the Irish *etar-scairim*, that is, *inter sepero*."

P. 240, l. 1. *Hominem*.—i.e. Miliucc (Muirchu, A). Tírechán gives the name as Miliuc maccu-Boin. Muirchu (B), cap. 1, speaks of Patrick as "apud quendam gentilem immitemque regem in servitute detentus," and, "deserte tiranno gentilique homine cum actibus suis."

P. 240, l. 1. *Sex annis*.—"more hebraico," Muirchu (B), cap. 1. Tírechán fixes the duration of Patrick's captivity as seven years.

P. 240, l. 2. *Ad bonum*.—Ferguson trans., "God, who shewed me well The way to go," and compares the Irish *go maith*. B transposes the clauses so as to make *bonum* = 'a good man.' In Boll. a further transposition takes place: "*In uirt. Dei qui uiam meam dir. ueni ad Bonum*." *Benum* is probably a misprint for *Bonum*, as Denis's note is "*Boandum* Vitae scriptores uocant, *Buuindam* Ptolemaeus, *Boyn* hodiernae tabulae." Denis assumed then that Patrick embarked at the Boyne, following Vit. Trip., p. 22. There is no specification of place in the other Lives.

P. 240, l. 5.—*Haberem*. This reading is supported by the fact that in § 31 *habeo* is spelt *abeo* in A. The reading *ut haberem inde navigare* might be an example of the use of *habeo* found in Low Latin to express the future; e.g. *resurgere habent* = 'will rise again,' in the Athanasian Creed. Vita ii. 18 paraphrases: "locutus est ut haberet navigationem cum illis." On the other hand, Probus (Vita v. 4) thus explains the wrath of the shipmaster: "Naclerus uero cum locutus esset ad eum de mercede naus, ille respondit se non habere."

P. 240, l. 13.—*Ex fide* = 'in good faith, sincerely, earnestly': cf. § 19, "Conuertemini ex fide," and 23, "Ex fide rogauerunt me."

P. 240, ll. 14, 15.—*Reppuli sugere mammellas eorum*.—As has been already pointed out (Introduct., p. 214), the ms. variations in this passage constitute one of the most striking proofs that the six existing mss. fall into three groups. The reading *fugere* or *fugire* can be easily

explained from the great similarity of the letters *f* and *f(s)* in MSS. *Amicitias* (CF₄) is a not very intelligent attempt to solve the difficulty by a reference to the context, "Fac nobiscum amicitiam," and *mammas* (BF₂R) is a natural substitution for the not very obvious diminutive *mammellas*.

We may, I think, dismiss the idea that there is any reference here to the Vulg. of Is. lx. 16, "Suges lac gentium, et mamilla regum lactaberis." Whatever may be the case with regard to the N. T., there are no traces of the Vulg. in Patrick's citations from the O. T.; and he quotes Isaiah five times. The LXX is *πλοῦτον βασιλέων φάγεσαι*, "Divitias regum comedes" (Hieron. in Esai.). Some plausibility is given to the reference by the transposition of clauses effected by Dr. W. Stokes, who places *quia gentes erant* immediately after *Dei*. The words of Isaiah convey a promise of an advantageous domination over the Gentiles. Here the context implies that *sugere mammellas* refers to some compliance with heathen customs, some form of ratification of friendship, which Patrick judged to be inconsistent with his "fear of God"; but that his hope of converting some of the heathen sailors to Christianity induced him to remain in their company. Prof. Bury takes a similar view. See his note on p. 321.

P. 240, l. 16. *Gentes* = 'heathen': cf. Conf. 34, 37, 48, Ep. 1, 14.

P. 240, l. 17.—*Obtinui*.—Ducange assigns to *obtinere* in Low Latin the meanings *occupare*, *vincere*, *superare*. It does not, of course, mean to 'remain' or 'stay,' but the context demands that sense to be assigned to the word here: "So I clave to them" (Ferguson).

P. 240, l. 18.—*Terram caepimus*.—Muirchu (B), cap. 1, says: "Ad Britanias nauigavit." This, Professor Bury considers a blunder due to a misunderstanding of the statement in § 23, "Et iterum post paucos annos in Britannis eram." (*Guardian*, Nov. 20, 1901.) But see *Introd.*, p. 225.

P. 241, l. 6. *Refecti*.—The ellipse of *est* or *sunt* after the past participle is common in St. Patrick: cf. Ep. 3, "Dum crudeliter trucidati atque mactati."

P. 241, l. 6. *Canes eorum repleti sunt*.—The reading *carnes* (CF₄*) is due to some scribe who did not understand how the dogs came to be with the sailors. *Rouelati* (BF₂R) is plainly an emendation of *reloati* (CF₄), and means that the dogs that were left behind, having somehow obtained food, overtook their masters.

P. 241, l. 12. *Deo gratias* must be connected with what follows, as in Conf. 23, 42, Ep. 17. Vita ii. 19 represents the words as having been actually spoken by Patrick in reply to the heathen: "Et dixit P., Deo gratias ago." Muirchu (B), cap. 2, extends the abstinence of

Patrick from the honey to abstinence from all food, on the ground that it had been offered to idols: "Ille autem sanctus Patricius nichil gustans de his cibis, immolaticum enim erat, nec esuriens, nec sitiens, mansit illesus." In this he is followed by Vita iii. 16. *Deo gratias* is a favourite expression with St. Patrick. It occurs twice in the *Dicta Patricii*; cf. also Conf. 30, "*Gratias ago ei*"; 34, "*Indefessam gratiam ago Deo meo*"; "*Deo gratias semper agere*"; 46, "*Sine cessatione Deo gratias agere*"; and the story in Muirchu (A), cap. 23, of St. Patrick's constant repetition of *grazacham*, i.e. *Gratias agamus*.

P. 241, l. 16. *Nihil membrorum*, &c. The reference to this in Muirchu (B), cap. 2, is worth quoting: "*Satanas . . . fingens saxa ingentia, et quasi comminuens iam membra; sed inuocato Helia bina uoce, ortus est ei sol*," &c. The reading of Boll., *et omnium morum membrorum vires abstulit*, is taken from Vita iv. as well as *saxum ingens* (so A) and *inuocarem*. Ferguson, explaining *sed* as equivalent to the Irish *acht* = *nisi*, renders it *but so much*.

"So that in all my limbs
Remained not but so much of power as brought
Into my mind the thought to cry, 'Helias.'"

However, *Sed unde mihi uenit . . . ut uocarem?* is exactly parallel to *Sed unde uenit illi . . . ut . . . me . . . dishonestaret?* § 32.

P. 241, l. 17. *Heliam*.—There can be no doubt that Patrick regarded his shouting of the name *Helias* as due to unconscious mental action, and that the name was chiefly associated in his mind on this occasion with the sun (*Helios*). Cf. the contrast between Christ, the true sun, and the sun which we see with the eye of sense, in § 60. On the other hand, the name *Helias* can only mean *Elijah*, and in this Muirchu and the Vitæ are right. Probus alone has, "*Cum trinâ uoce invocasset Christum, solem uerum*." Todd (*St. Patrick*, p. 371) endeavours to prove that what Patrick really did say was *Eli*, My God.

P. 242, l. 3. *Et iterum—capt. dedi*.—Whether we interpret this, with Ferguson, of a spiritual captivity, or of a second literal captivity, the words must be taken as a parenthesis, as Prof. Bury rightly points out (*Guardian*, Nov. 20, 1901); for the words *Et nocte*, &c., continue the narrative. It seems best to suppose that Patrick's strange demeanour caused the sailors to treat him as a prisoner. The following sentences certainly prove that he considered himself as such. CF₂F₄ have a full stop after *et iterum*, as though a quotation from Scripture should follow, as in §§ 7 and 25.

P. 242, l. 3. *Ea nocte*.—The providential appearance of the herd of swine seems to be dated eighteen days after the landing. Patrick's captivity of two months began that night, and lasted a month and a half after the party reached their destination. The transposition in Boll. of §§ 21 and 22 was intended, no doubt, to place events in proper sequence of time.

Muirchu (B), cap. 3., places Patrick's second captivity "many years" after the incident of the sailors, "Et iterum post multos annos capturam ab alienigenis pertulit." Cap. 4 opens with, "Et iterum post paucos annos ut antea in patria sua propria apud parentes suos requievit." This, as Prof. Bury shows, is a blunder due to Patrick's parenthetical mention of it (*Guardian*, Nov. 20, 1901).

P. 242, ll. 6, 9. It should be noted that Muirchu read *saxagesimo die . . . decimo die . . . ad homines*." The reading *quarto decimo die* was probably due to the occurrence of the phrase in § 52.

P. 242, l. 9. *Peruenimus omnes*.—The reading of CF₁, *ad homines* is tempting, but must be rejected in conformity with the principles which we have accepted. When the words occur for the second time, l. 11, the evidence (A Boll. F, R) for *omnes* is overwhelming, and practically determines the reading in the first occurrence also. There F₁ is defective; and it is uncertain whether *ad* was in R or not, owing to the dilapidated condition of the MS.; and, as A Boll. omit *ad*, we must suppose *homines* of Boll. R to be a blunder for *omnes*. At the same time it must be confessed that *ad homines* gives a better sense.

P. 242, l. 12. *Britannia*.—Todd (*St. Patrick*, p. 356, note 2) observes that "the plural number denotes the Roman Britanniae or provinces of Great Britain," i.e., Britannia Prima, Britannia Secunda, Maxima Caesariensis, Flavia Caesariensis, and Valentia. Ferguson renders, "Amongst the Britons, as in the Irish gloss on Fiacc, *in bretnaib*." Patrick also uses the plural *Gallias*, p. 248, l. 25. Note the variations in spelling here of the mss., and that *Brittanniis* is the form in §§ 32, 48.

P. 242, l. 14. *Nusquam*.—Muirchu (B), cap. 4, reads *numquam* with *rell*.

P. 242, l. 16. *Uidi in visu noctis* occurs again in § 29. This justifies us in regarding the reading of A here, *in sinu noctis*, as a blunder. According to Muirchu (B), cap. 4, Patrick at the time of these visions was thirty years old. Prof. Bury (*Guardian*, Nov. 20, 1901) points out that this is a blunder based on a misunderstanding of § 27, "Post annos triginta." Muirchu (B), capp. 4, 5, 6, interposes a visit to Rome, and a long stay with Germanus in Gaul, between certain

'multae uisiones' in Britain, and the voice from the wood of Fochlut. See note on p. 248, l. 25.

P. 242, l. 17. *Victoriosus*.—Prof. Bury remarks (l.c.) :—"It is certain that long before he [Muirchu] wrote, the human Victorius of the Confession had been glorified by popular imagination into the guardian angel Victorius or Victor, who watched over Patrick, and took a special interest in Ireland." In Muirchu (B), cap. 1, we read : "Post frequentias angelici Victorici a Deo ad illum missi." Again, cap. 6—"Ille antiquus ualde fidelis Victorius nomine, qui omnia (B) sibi in Hibernica seruitute posito antequam essent dixerat, eum crebris uissionibus uissitauit." (A). Again, Lib. ii. (A), cap. 3 : Uictor erat angelus qui Pat. saepe uissitare solebat.

P. 242, l. 20. *Uocem*.—Muirchu (A), cap. 6, gives the words as "Uocant te filii et filiae siluae Foclitae." We read in Tirechán, fol. 11, r°, a, "Filiorum clamantium clamore magno nocēs audiuit in utero matrum suarum dicentium, Ueni sancte Patrici, saluos nos facere." Similarly the third antiphon appended to the Hymn of St. Sechnall :—

" Hibernenses omnes clamant ad te pueri
Ueni sancte Patrici saluos nos facere."

According to Vita iii. 20 (Colgan's ed.), the words were, *hoch, aillile, fortaish*, explained by Colgan thus—"Heu, accede huc, fer auxilium." They really are a corruption of *ochailib Fochla* (Bury, *Trans. R.I.A.* xxxii., sec. c., p. 209) : cf. Vit. iv. 70, vi. 21. Muirchu (A), cap. 6, places this incident in Gaul—a plain contradiction to the Confession. Prof. Bury (*Guardian*, Nov. 27, 1901) suggests that both Muirchu and the Hymn of St. Fiacc (l. 16) followed in this and other matters early *Acta* of St. Patrick.

P. 242, l. 21. *Fochluti*.—Not to mention the corruptions of the other mss. of the Confession, this name is given in Vita ii. 21, as *Fochlue*; in Vita iv. 25, as *Fochluig*; and in Vit. Trip., p. 32, as *ó chailid Fochlad*. Ussher's note (*Brit. Eccles. Ant.*, p. 832) is as follows :—"Est autem nominatus ille locus apud Maionenses in Connaciá; Tirechano *Sylua Fochloth* vel *Fochlithi*, Fiecho Slebthiensi *Ciaille Fochlad* dictus." This wood included the townlands of Crosspatrick and Donaghmore in the parish of Killala, in the barony of Tirawley, County Mayo. (O'Donovan, *Genealogiss, &c., of Hy-Fiachrach*, Dublin, 1844, p. 463, note.)

P. 243, l. 2. *Expertus*.—This word occurs three times within a few lines. It has been altered to *expergesfactus* in the later mss. in §§ 23,

24, but left unchanged in § 25, possibly because in this last place it was supposed to come from *exporior*. Ducange quotes *expergo* in the sense of *expergescio* from Nonnus, "Expergite pectora tarda." *Exporius* is most likely a provincial or vulgar pronunciation of *experrectus* or *aspergitus*. Dr. Gwynn has called my attention to the fact that twice over A shortens *exper[re]ctus*, and lengthens *eff[ici]atus*, each by three letters. He suggests that possibly the exemplar had *expertus*. . . . *effatus*, with *re* in the margin, meant to be inserted in *expertus*, and that an ignorant scribe mistook it for a correction of *effatus*, and finally blundered into *efficiatus*.

P. 243, l. 2. *Deo gratias*.—CF, F₄ connect these words with the preceding clause. See note on p. 241, l. 12.

P. 243, l. 5. The insertion in Boll. after *peritissimis* is taken from Vita iv. 17, the only variation being *spiritibus* for *spiritu*. It also occurs in almost identically the same words in Vita ii. 13, and Trip., p. 18. The Vitæ, however, say that Patrick heard these voices while a captive in Ireland. Prof. Bury thinks that *orabat* has fallen out after *peritissimis*.

P. 243, l. 6. *Effatus*.—A reads *efficiatus* here and in l. 12. In this place all the later copyists understood the meaning to be *affatus*; but in l. 12 F, and R seem to have taken it from *efficio* in the sense 'transform.' So Ferguson, "He showed, a bishop." As I have not been able to find any example in Ducange of *efficiatus* as = *affatus* or *effatus*, and as the same sense is evidently intended in both places, it seems better to read *effatus* in both; it occurs again § 33. Dr. Gwynn suggests as barely possible that Patrick coined the word *efficior* as the opposite of *inficior*, and thus = 'to affirm.'

P. 243, l. 12. *Effatus est ut sit Spiritus*.—The context proves that *Spiritus* is the correct reading here, although B, if we may trust Denis, is the only ms. that gives it, not counting F₄ corr. *Episcopus* is written almost fully in A; it is contracted *eps* in the other mss. (*eps* = *spiritus*). Ferguson explains it of "the internal presence of the great bishop of souls."

P. 243, l. 18. *Unerunt et*.—The fact that R reads *et* makes it likely that *ob* in Boll. is a conjecture by Denis. He would connect *unerunt contra*. In the text, as it stands, the sentence is broken off owing to the writer's emotion.

P. 243, l. 21. *Conculcatione*. The noun occurs in Is. v. 5, xxii. 5, xxviii. 18; the verb in Pss. lvi. 1, 2; lvii. 3.

P. 243, l. 24. *Occasionem*.—The end of § 26 and beginning of § 27 read thus in CF, F₄, R: *reputetur occasionum*. *Post*, &c. The passage is

evidently corrupt, and the only question is, What emendation will least disturb the text? The reading of Boll., *reputetur occasio. Nam post . . . inuen. me, adu.*, is most likely a conjecture of Denis's, but a very plausible one. *Occasio* might be rendered 'unfair attack.' Ducange notes that it has the meaning *lis iniuste intentata*, as well as those of *damnatio, periculum, discrimen*. The word occurs in some such sense in § 55; and *num* is written for *nam* in § 25 in CF₃F₄.

On the other hand, *inuenerunt me*, 'they found me,' is meaningless, unless we suppose that Patrick was hiding. If we could be sure that here Boll. = B, we might venture upon a transposition of the words, as Dr. Gwynn has suggested to me, and read *inuenerunt adu. me uerbum*: cf. Acts xxiv. 20, "Dicant si quid inuenerunt in me iniquitatis." But the fact that R here agrees with CF₃F₄ renders it almost certain that B did so too; and the conjecture *occasionem* only involves the omission of *me* (Boll. qm. *et*), and gives a more satisfactory close to § 26, and is commended by the allusion to Dan. vi. 5.

P. 244, l. 12. *Memoratis supradictis*.—This refers to the *Seniores* of § 26. For *supradictus* cf. Ep. 3.

P. 244, l. 15. *Male uidimus*, &c.—The reading of A, *audiuimus*, is clearly proved to be wrong by the following line. *Nudato nomine* is explained by the preceding *sine honore*; and, as the *responsum diuinum* is contrasted with the *scriptum*—the human impeachment—it seems best to refer *designati* to Patrick himself. But it cannot mean 'bishop designate,' since he was already a bishop, see p. 243, l. 18. We may suppose that the *scriptum* was an accusatory document in which Patrick was *designatus* by name merely, his episcopal rank and title being ignored. Or, since *faciem* in l. 13 is employed in a different sense from that which it has in l. 15, and as l. 26 proves that the *responsum* was especially directed against Patrick's false friend, we may take *designatus* as = *memoratus* (l. 12) and *nudato nomine* as meaning that his name, suppressed by Patrick, was laid bare, plainly expressed, in the *responsum*, so that what Patrick heard was, *Male uidimus faciem Germani*, supposing that had been the name.

Ferguson seems to take *designati* as nom. pl. agreeing with *nos* (understood), and conjectures *Male audiuius [scripto contra] faciem des.*, &c., and notes that "*contra faciem* is perhaps the Irish *in agaid 'aduersum.'*" He renders, "I saw a script against me, and no name Of honor written, . . . We are here Ill-styled by name stripped bare of dignity."

P. 244, l. 20. *Dediceram*.—In accordance with the system of spell-

ing adopted in this edition (see Appendix), it seems best to follow the use of A, in which *dedici* occurs in § 9.

P. 244, l. 28. *Defensionem*.—Denis explains this as 'inhibition,' and so Ferguson; but there seems to be a clear reference to 2 Tim. iv. 16, which is confirmed by the allusion to the same text at the end of § 26, "Non illis reputetur."

P. 245, l. 5. *Quod . . . indulserat*.—This refers to the conferring on Patrick of the dignity of the episcopate. See l. 2, "Ecce dandus es," &c. *Indulgeo* is used in a similar connexion in Ep. 6.

P. 245, l. 11. *Audenter rursus*.—sc. *dico*: see § 31.

P. 245, l. 11. *Sed scit Deus*, &c.—In this sentence the emphasis must be laid on *homo* as contrasted with *Deus* understood. *Hoc* refers to the *responsum diuinum* of §§ 29, 32. 'If a mere man had thus rebuked my old friend, I should not have revealed the fact.'

P. 245, l. 15. *Ut hostiam*.—*Hostiam uiuentem* is in apposition to *sacrificium*. The reading of Boll. would make a distinction between the two, suggesting an allusion to the Holy Eucharist in the word *sacrificium*.

P. 245, l. 18. *Aperuisti*.—The meaningless reading of CF₂F₄, *cooperuisti*, suggests the possibility of an original *aperuisti*.

P. 245, l. 28. *Usque*, &c.—Cf. § 51, "Usque ad exteras partes ubi nemo ultra erat."

P. 246, l. 6. *Idiotam*.—This conjecture implies a reference to Acts iv. 13, "Homines sine litteris et idiotae." *Ideo tamen* is meaningless, and very probably was omitted on that account by the scribe of B or by Denis.

P. 246, l. 17. *Aurem*.—Just as in the case of *expertus*, p. 243, ll. 2, 7, 12, it is probable that we have here an instance of provincial pronunciation, and an illustration of the transition of *audire* into the old French *ouïr*. See Brachet (*Dictionnaire Etymologique*).

P. 246, l. 19. *Ingenuitatem meam*.—Cf. Ep. 10, "Ingenuus fui secundum carnem," where also *pro utilitate aliorum* occurs in the immediate context.

P. 246, l. 20. *Animam meam*.—It is not necessary to supply [*ponam*], with Boll., after *libentissime*. The accusative depends on *darem* in the previous clause.

P. 246, l. 24. *Consummarentur*.—Cf. § 51, where *consummaret* (CF₂F₄) = *in fide confirmaret* (B): cf. Ep. 2, "Quos . . . in Christo confirmaui."

P. 247, l. 7. Muirchu (A), cap. 6, seems to allude to this section when he says:—"Uictoricus . . . eum . . . uisitauit dicens ei adesce

tempus ut ueniret et *asauangelico rete* nationes feras et barbaras ad quas docendas misserat illum Deus, *ut piscaret.*" Similarly the Hymn of St. Sechnall, l. 13 :—

" Dominus illum elegit ut doceret barbaras
Nationes ut piscaret per doctrinae retia."

Dr. Todd (*Vit. Trip.*, p. 272, note) thought that Muirchu copied St. Sechnall. But, as Professor Bury (*Guardian*, Nov. 20, 1901) observes, both may echo the language of the Confession.

P. 247, l. 11. *Retia nostra tendere*, followed as it is by *multitudo copiosa*, seems an echo of S. Luke v. 4. There is, however, no authority there for *tendere*. The verb is variously rendered: *laxate*, *mittite*, *summitte*, *expandite*.

P. 247, l. 13. *Indigentem et desiderantem* may very possibly be the rendering of the Biblical phrase, "the poor and needy," in some O. L. text; but I have not been able to trace it.

P. 248, l. 8. *Filii Scottorum et filiae regulum monachi et uirgines Christi* occurs again, Ep. 12. It is a rhetorical expression for *Filii et filiae reg. Scott.*

P. 248, l. 10. *Una benedicta*.—Villanueva thinks that this most probably refers to Cinnu, who was daughter of Echaid, or Echu, son of Crimthann. Her father desired to wed her to Cormac, son of Coirbre, son of Níall, but agreed to allow her to take the veil; and Patrick gave her into the charge of Cechtumbar, abbess of Druimm-Dubain (*Vit. Trip.*, p. 177).

Jocelin, cap. 79, says the incident took place "in regionem Neill," and gives the names as Cynnia, Echu, Cethuberis, Cruim-duchan.

Cechtumbar was, we are told, the first who took the veil at the hands of St. Patrick; and Villanueva says that possibly she is the *benedicta Scotta* of the Confession; or, again, that possibly St. Brigid is meant.

P. 248, l. 17. *De genere nostro* possibly means, 'of my begetting'; cf. Ep. 16 "Quos in Christo genui."

P. 248, l. 25. *Usque ad Gallias*.—Gaul being mentioned as the utmost limit of the writer's longings, would seem to imply that his travels had never extended further. Muirchu (B), cap. 4, certainly speaks of Patrick as "egressus ad sedem apostolicam uisitandam et honorandam," but only in the vaguest terms. When Muirchu wrote, it was inconceivable that Patrick should not have visited Rome. Similarly Tírechán, "Ambulauit et nauigauit . . . per Gallias atque

Italiam totam atque in insolis quae sunt in mari Terreno ut ipse dixit in commemoratione laborum." The reference is to one of the *Didæ Patricii*, "Timorem Dei habui ducem itineris mei per Gallias atque Italiam etiam in insolis . . . Terreno," and not to any lost work, *Commemoratio laborum*, by St. Patrick, as W. Stokes supposes (*Vit. Trip.*, p. xci).

P. 249, l. 13. *Rideat*, &c.—This refers to the jeers that were called forth by Patrick's *rusticitas*.

P. 249, l. 28. *Agnoui gratiam*.—Cf. Gal. ii. 9, "Cum cognouissent gratiam quae data est mihi"; and 1 Cor. iii. 10.

P. 250, l. 5. *Praestauit et praestabo* is modelled on 2 Cor. xi. 9, "Seruauit et seruabo."

P. 250, ll. 16, 17. *Infideles . . . incredulis*.—The latter word has the connotation of 'scoffing unbelief.' *Infideles* means simply 'heathen': Cf. § 37 'Ab incredulis contumelias perferre.'

P. 250, l. 20. *Scriptulae*.—*Scriptula* = *scriptulum* = *scrupulum*, the twenty-fourth part of an ounce, the smallest division of anything; possibly here used of the *screpall* or *sical*, an ancient Celtic silver coin weighing twenty-four grains (Joyce, *Social History of Ancient Ireland*, Lond., 1903, vol. ii., p. 381).

P. 251, l. 7. *Uos autem*, &c.—Tírechán (*Book of Armagh*, fol. 10^o, b.) fixes this incident as taking place on Patrick's journey to the wood of Fochloth in the company of Endeus and his brothers: "Extendit [expendit] Patricius etiam praetium xu animarum hominum, ut in scriptione sua adfirmat, de argento et auro, ut nullum malorum hominum inpederet eos in uia recta transeuntes totam Hiberniam." The judges implied in the reading of B, *qui iudicabant*, are by O'Connor thought to be the Brehon judges. It is right to note that the reading here of F₃F₄, as well as of C, is certainly *indicabant*. I have twice verified it myself by personal inspection of the MSS.; and an independent examination by a competent collator resident in Oxford has confirmed my reading. There is no allusion to judges of any sort in Tírechán.

P. 252, l. 2. *Elegit me*.—Cf. St. Sechnall's Hymn, l. 13, "Dominus illum elegit ut doceret barbaras Nationes," &c.

P. 252, l. 6. *Scrutatur*.—The reading of CF₃F₄, *scrutabor*, might be explained to mean that Patrick is conscious of his own integrity to such a degree that he will assume the divine function of searching out his heart.

P. 252, l. 11. *Testem*.—The reading of Boll. is less disturbing to the text than would be *testimonium*, which has occurred to me. Cf.

1 Tim. vi. 13, "[Jesus] qui testimonium reddidit sub Pontio Pilato," &c.

P. 252, l. 12. *Transitum*.—It is possible that this is a rendering of ἔξοδος, S. Luke ix. 31, 2 Pet. i. 15. The extant renderings in S. Luke are *excessum, exitum, consummationem*. The verse in 2 Pet. is quoted as in Vulg. in § 14, 'Post obitum meum.' Cf. S. John xiii. 1, 'Hora eius ut transeat ex hoc mundo.' The only O. L. MS. that contains the verse is *h*, which has *positis etiam corporibus*.

EPISTOLA.

As has been pointed out in the first note on the Confession, the original title of this composition was *Liber secundus S. Patricii*, or *Lib. sec. Epistolarum*. Ussher (*op. cit.*, p. 818) says: "De genere suo ita scribit ipse Pat. (si modo titulus non fallat) in epistola ad Coroticum tyrannum: *Ingenuus fui secundum carnem decorione patre nator*," quoting from C.; and consequently, in Ware's ed., it is entitled *S. P. ad Coroticum Epistola*. Denis, in the Bollandist ed., has a long note pointing out that it was not sent to Coroticus personally; and he accordingly entitles it *Epistola S. Patricii ad Christianos Corotici tyranni subditos*. He informs us that it had no special title in his ms.

Coroticus himself, according to Todd (*St. Patrick*, p. 352), "is supposed to have been the Caredig, or Ceredig, son of Cynedda, who flourished in the fifth century, and who gave his name to the county of Cardigan, called by the Welsh, Caredigiawn." Ferguson, on the other hand (*op. cit.*, p. 116), asserts with some confidence that the title of Muirchu's 28th chapter, *De consuetu Sancti Patricii adversum Coirthech regem Aloo*, proves that "in the seventh century, the Coroticus of Patrick's epistle was regarded as king of Ailclyde, the capital of the kingdom of the Strathclyde Britons," since "Alo-clotha is the form in which Ailclyde is presented in the older Irish Annals." This is proved almost to demonstration by W. F. Skene (*Celtic Scotland*, vol. i., p. 158, n.) and by Zimmer (*Celtic Church*, p. 54). This gives point to Ep. 2, "Non dico ciuibus meis." I subjoin Muirchu's chapter 28, as given by Hogan; the words in brackets are the readings of the ms.

"Quoddam mirabile [Quod ammirabile] gestum Patricii non transibo silentio. Huic nuntiatum est nequissimum opus cuiusdam regis britannici nomine *Corictic*, infausti crudelisque tyranni. Hic namque erat maximus persecutor interfectorque christianorum. Patricius

autem per epistolam ad uiam ueritatis reuocare temptauit: cuius salutaria deridebat monita. Cum autem ista [ita] nuntiarentur Patricio, orauit Dominum et dixit: *Deus, si fieri potest, expelle hunc perfidum de presenti seculoque futuro.* Non grande postea tempus effluxerat [effluxuat], et musicam artem audiuit a quodam cantare quod breui [om. breui] de solio regali transiret. Omnesque karissimi eius uiri in hanc proruperunt uocem. Tunc ille, cum esset in medio foro ilico uulpeculae [uel ficiuli] miserabiliter arepta forma, profectus in suorum presentia, ex illo die illaque hora uelut fluxus aquae [quae] transiens nusquam comparuit."

Hogan notes that *uulpeculae* is the reading of Probus, and that for *et musicam—cantare* Probus has, *magicam artem a quodam sibi praecantari fecit, a quo audiuit.*

The interest for us in this legend lies in the fact that it proves Muirchu's knowledge of the existence of the Epistola. The story is repeated in four of the Lives. The name is given as *Coritio* in iii. 72; *Chertic* in Probus ii. 27; *Cereticus* in Jocelin 150; and *Coirtech* in Trip., p. 248.

P. 254, l. 2. *Fateor*.—There is possibly a slight touch of irony in this passage: "I am only bishop to the despised Irish; consequently my lot is cast amongst barbarous heathens, i.e. the Scottic allies of Coroticus."

P. 254, l. 12. *Sanctorum Romanorum*.—The best comment on St. Patrick's use of *Romani* here and in § 14 is one of the *Dieta Patricii*, "Aeclessia Scotorum, immo Romanorum; ut Christiani ita ut Romani sitis." He is thinking more of the see of Rome than of the empire. It is probable that in his time the two conceptions were somewhat confused in men's minds.

P. 254, l. 13. *In morte uiuunt*.—Cf. 1 Tim. v. 6, "Uiuens mortua est."

P. 254, l. 14. *Pictorum apostatarum*.—The same epithet is applied to the Picts in § 15. St. Ninian, of Whitherne, is commonly said to have converted the southern Picts about the year 412 A.D. See Intro., p. 223.

P. 254, l. 16. *Crismati* is the past part. of *crismare*, 'to anoint.'

P. 254, l. 16. *Flagrabat*.—*Flagrare* = *fragraré* in Low Latin.

P. 254, l. 18. *Sancto presbytero*.—Ware conjectures that this may refer to Benignus, who, according to Tírechán, was St. Patrick's successor in the See of Armagh.

P. 254, l. 22. *Zabulus inlaqueauit*.—*Zabulus* is a Low Latin form of *diabolus*: cf. Hymn of St. Sechnall, l. 81 "Innumeros de Zabuli

absoluet dominio." Patrick here alludes to 1 Tim. iii. 7, vi. 9, "Laqueum diaboli."

P. 254, l. 23. *Mancipabunt*.—I had rendered this 'will possess hell,' as though *mancipare* = *manu capere*, i. e. 'take hold of.' Dr. Gwynn has suggested to me that it might be an ungrammatical expression for 'become slaves (*mancipia*) of hell.' This view is supported by *seruus*, which follows.

P. 254, l. 1. *Quapropter*, &c.—Ferguson (*op. cit.*, p. 100) calls attention to the fact that Patrick here and in § 7 is exercising episcopal jurisdiction in placing Coroticus under the minor excommunication.

P. 255, l. 2. *Patricida*, &c.—The sing. here and in § 21 refers to Coroticus.

P. 255, l. 15. *Donce crudeliter*, &c.—Prof. Bury thinks that here "words have obviously fallen out, as *crudeliter* gives no sense. Comparing p. 254, l. 17, we must restore *pro crudeliter interfectis*, or *trucidatis*, or something of the kind."

P. 256, l. 12. *Decorions*.—A *decurio* or *curialis* was a member of the *Curia* of a town under the Roman Empire. "The *Curia* consisted of a certain number of the richest landowners who were responsible to the treasury for a definite sum, which it was their business to collect from all the proprietors in the district." (Bury, *History of the Later Roman Empire*, vol. i., p. 27). Gibbon, in his remarks on the Theodosian code, which was promulgated in A.D. 438, says: "The laborious offices, which could be productive only of envy and reproach, of expense and danger, were imposed on the *Decurions*, who formed the corporations of the cities, and whom the severity of the Imperial laws had condemned to sustain the burthens of civil society." (*Decline and Fall*, Ed. Bury, vol. ii., p. 192.)

P. 256, l. 14. *Genti exteræ*—i.e. the Picts. This follows from a comparison of p. 257, l. 13, "Uendis illos genti exteræ," and l. 25, "Christiani in seruitutem redacti sunt, præsertim . . . Pictorum."

P. 257, l. 7. *Sicut Eva non intellexit*.—Cf. Milton's "knew not eating death." *Par. Lost*, ix. 792.

P. 257, l. 10, *Romanorum Gall. Christ*. This means Gallic Christians in communion with Rome; and the apparently superfluous epithet *Romanorum* is added to emphasize the contrast between their conduct and that of Coroticus and his men, who were nominally *Romani* in this sense.

P. 257, l. 11. *Francoes et cæteras gentes*.—The Franks, who are here spoken of as heathen, were converted *en masse* to Christianity with Clovis in 496 A.D.

P. 257, l. 12. *Omnes*.—The reading of CF₂F₄* *totius* suggests that *potius* may be the right word. This has also occurred to Prof. Bury, independently.

P. 258, l. 9. *Gratis*.—For this use of *gratis* cf. Gal. ii. 21, “*Gratis Christus mortuus est.*”

P. 258, l. 10. *Et contigit—ineffabile!*—Prof. Bury would read, *non fuit; etsi contigit—ineffabile.*

P. 258, l. 11. *De saculo—paradisum*.—This is one of the *Dicta Patricii*, “*De saec. requisistis ad paradisum.*”

LIST OF RECURRENT PHRASES

EXCLUSIVE OF SCRIPTURAL QUOTATIONS.

Patricius peccator, Conf. 1, 62, Ep. 1.

Patricius peccator indoctus scilicet, Conf. 62, Ep. 1.

Indoctus scilicet, Conf. 12, 62, Ep. 1.

Capturam dedi, Conf. 1, 10, 20.

Ut uel sero, Conf. 1, Ep. 21.

Tot milia hominum, Conf. 1, 14, 50.

Baptizati tot milia hominum, Conf. 14, 50.

Hic et in aeternum, Conf. 12, 26, Ep. 21 : cf. Hic et in futurum, Conf. 30.

Si dignus fuero, Conf. 13, 37 : cf. Si dignus sum, Ep. 1.

Non eram dignus neque talis, Conf. 15, 55.

Amor Dei et timor ipsius, Conf. 15, 44.

Ex fide, Conf. 15, 19, 22.

Deo gratias, Conf. 19, 23, 42, Ep. 17.

Ubi nemo ultra est, Conf. 34, 51.

Non mea gratia sed Deus, Conf. 37, Ep. 11.

Pro utilitate aliorum, Conf. 37, Ep. 10.

Filii Scottorum et filiae regulorum monachi et uirgines Christi, Conf. 41, Ep. 12.

Adquisiuit in ultimis terrae, Conf. 58, Ep. 9.

Certissime reor, Conf. 59, Ep. 1.

Paratus eram, Conf. 43, 46, 57.

Enumerare nequeo, Ep. 12, 16.

NOTES ON THE BIBLICAL QUOTATIONS.

LIST OF ABBREVIATIONS OF MSS.

- Sab. = *Bibbiorum Sacr. Latinae Versiones Antiquae*, ed. P. Sabatier, Paris, 1751. The Patristic citations are mainly taken from this work, and also the readings of Cod. Sangermanensis (Psalter) and of Codd. *e* (Gospp.) and *e* (Paul).
- Cod. Lugd. = Cod. Lugdunensis, Fragments of Hexateuch, ed. U. Robert, Paris, 1881.
- Cod. San- } = Cod. Sangermanensis, Psalter, ed. Sabatier.
germ.
- Cod. Veron. = Cod. Veronensis, Psalter, ed. Bianchini, *Psalterium Duplex*, Rome, 1740.
- Moz. = Mozarabic Liturgy, for Psalter, ed. Migne, *Patrol. Latina*, Tom. 86.
- Heb. = *Psalterium iuxta Hebraeos Hieronymi*, ed. Lagarde, Leipzig, 1874.
- Cod. Wiro. = Cod. Wirceburgensis, Fragments of the Prophets, ed. E. Ranke, Vienna, 1871.
- m = *Liber de diuinis Scripturis siue Speculum*, ed. F. Wehrich, Vienna, 1893.
- D = The Version (mixed Vulgate) of the New Testament contained in the Book of Armagh.

GOSPELS.

- a = Cod. Vercellensis, ed. Bianchini, *Evangeliarium Quadruplex*, Rome, 1749.
- b = Cod. Veronensis, ed. Bianchini, *op. cit.*
- c = Cod. Colbertinus, ed. Sabatier, *op. cit.*
- d = Cod. Bezae, Facsimile ed. Cambridge, 1899.
- e = Cod. Palatinus, ed. Tischendorf, Leipzig, 1847.
- f = Cod. Brixianus, edd. Bianchini, *op. cit.*, and Wordsworth and White, *Vulgate*.
- f₁ = Cod. Corbeiensis (i), edd. Bianchini, *op. cit.*, Belsheim, Christiana, 1882.
- f₂ = Cod. Corbeiensis (ii), edd. Bianchini, *op. cit.* (collation), Belsheim, Christiana, 1887.
- g₁ = Cod. Sangermanensis (i), ed. Wordsworth, *O. L. Bibl. Texts*, i., Oxford, 1883.
- g₂ = Cod. Sangermanensis (ii).
- h = Cod. Claromontanus, ed. Belsheim, Christiana, 1892.
- i = Cod. Vindobonensis, ed. Belsheim, Leipzig, 1885.
- k = Cod. Bobiensis, ed. Wordsworth and Sanday, *O. L. Bibl. Texts*, ii., Oxford, 1886.
- m = vid. supra.
- n }
o } = Fragmenta Sangallensia, ed. H. J. White, *O. L. Bibl. Texts*, ii., Oxford, 1886.
p }
- q = Cod. Monacensis, ed. H. J. White, *O. L. Bibl. Texts*, iii., Oxford, 1888.

*r*₁, *r*₂ = Codd. Usseriani, ed. T. K. Abbott, Dublin, 1884.

aur. = Cod. Aureus, ed. Belsheim, Christiana, 1878.

s = Cod. Sangallensis, the interlinear Latin of Cod. A, ed. J. Rendel Harris, Cambridge, 1891.

μ = The Book of Mulling, ed. H. J. Lawlor, Edinburgh, 1897.

ACTS.

d as in Gospels.

e = Cod. Laudianus, ed. Tischendorf, Leipzig, 1870.

g = Cod. Gigas Holmiensis, ed. Belsheim, Christiana, 1879.

m as in Gospels.

*p*₂ = Perpignan ms., ed. Berger, Paris, 1895. (Acts i. 1-xiii. 6; xxviii. 16-31.)

*g*₂, *h*, and *s* are not available for any of St. Patrick's citations from Acts.

CATHOLIC EPISTLES.

h = Palimpsest of Fleury, ed. Berger, Paris, 1889.

m as in Gospels.

PAUL.

d = Cod. Claromontanus, ed. Tischendorf, Leipzig, 1882.

e = Cod. Sangermanensis, ed. Sabatier, *op. cit.*

f = Cod. Angiensis, ed. Scrivener, Cambridge, 1859.

g = Cod. Boernerianus, ed. Matthaei, Misena, 1791.

gus = Cod. Guelferbytanus, ed. Tischendorf, *Anecdota Sacra*, Leipzig, 1855.

r = Freisingen Fragg., ed. Ziegler, *Italafragments*, Marburg, 1876.

APOCALYPSE.

g as in Acts.

h as in Acts.

m as in Gospels.

CONFESSIO.

1. A Deo recessimus: Is. lix. 13, Rec. a Deo. nostro (Hieron. in *Esai.*), and *passim*.

Praecepta—custodiimus: cf. Gen. xxvi. 5, Exod. xx. 6 and *passim*.

Induxit—animationis suae: Is. xlii. 25, Superinduxit super eos iram an. suae. (Cypr. de Dom. Or. 25, de Lapsis 21.)

Dispersit—gentibus: cf. Jer. ix. 16. But none of the passages of O. T. in which this phrase occurs is extant in O. L.

Usque ad ultimum terrae: Acts xiii. 47. See § 38.

2. Aperuit sensum: cf. S. Luke xxiv. 45, Aperuit illis sensum; Acts xvi. 14, Huic Dom. aperuit sensum (*g*).

Conuert. toto corde: Joel ii. 12. See § 19.

Respexit humilitatem: S. Luke i. 48.

3. Terra capt. meae: 2 Chron. vi. 37, and *passim*.

Retributio: Echo of Ps. cxv. 12, Quid retribuam Domino pro omnibus quae retribuit mihi?

Agnitionem Dei: cf. Col. ii. 2, Ag. mysterii Dei; 2 Pet. ii. 20, Ag. Domini nostri (Aug.).

Confiteri mirab.: cf. Ps. lxxxviii. 6, Confitebuntur caeli mir. tua; also Ps. cvi. 15.

Omni—caelo: Acts ii. 5. *g*, *p*₂, Vg. have *quae sub caelo est*; but Aug., D have *quae est*. No O. L. authority cited by Sab. has *omni* (2).

4. Per ipsum . . . uisibilia et inuis.: Col. i. 16.

Receptum: S. Mark xvi. 19 (*ff*₂, *g*, Iren.); Acts i. 11. (*e*, *g*, *p*₂). Vg. has *assumptus*, and so most O. L. authorities.

Dedit illi—Christus: Phil. ii. 9–11. The passage reads thus in *d*, Donavit illi nomen super omne nomen ut in nomine Iesu omne genu flectat caelestium et terrestrium et infernorum, et omnis lingua confiteatur quoniam Dominus Iesus Christus in gloriam Dei Patris. Vg. om. *et* (1). *Dedit* for *donavit* is found in Novatian, Ambrose, Aug.; *Confiteatur ei* in Iren.

St. Patrick had also in his mind S. Matt. xxviii. 18, Data est mihi omnis potestas in caelo et in terra; and S. John xx. 28, Dominus meus et Deus meus.

Qui reddet—facta sua: Rom. ii. 6. Vg. and most O. L. authorities have *opera eius*. *Facta sua* is found in Victor Tun. de Poenit. p. 603 f. Aug. sometimes quotes it *opera sua*. So *g*. Cf. S. Matt. xvi. 27. Tunc reddet unicuique sec. facta eorum (*ff*₁).

Effudit—habunde Sp. Sanctum: Tit. iii. 5, 6, Spiritum Sanctum quem effudit in nos honeste (*d*, *e*). So most O. L. authorities. *Abunde* *f*, Vg.; but Sab. cites *abunde* from Ambrosiaster and four other writers. Other renderings are, *opulenter*, *ditissime*, *abundanter* (*g*, D).

Donum: Acts ii. 38, Donum Spiritus sancti (*g*, *p*₂ Vg.).

Pignus: 2 Cor. i. 22; v. 5; Eph. i. 14.

Filii Dei, coheredes Christi: Rom. viii. 16, 17.

5. Inuoca me, &c.: Ps. xlix. 15, Roman Psalter, except that Cod. Sangerm. has *eripiam* for *liberabo*, which is found in the Hebrew Psalter. Cod. Veron. and others have *eximam te et glorificabis me*. *Glorificabis* is also Hebrew. Cypr., Testim. i. 16, iii. 30, has *eripiam . . . glorificabis*.

Opera autem, &c.: Tob. xii. 7.

6. Fratribus et cognatis: S. Luke xxi. 16.

7. Testimonium Dom.: 2 Tim. i. 8, Noli ergo erubescere in test. Dom. nostri (*d, e*).

Perdes eos, &c.: Ps. v. 7, Roman Psalter; Vg. has *Perdes omnes qui*, &c.

Os quod mentitur, &c.: Sap. i. 11. Vg., *Os autem quod*, &c. Sab. notes that *autem* is omitted in S. Leo, serm. 38, and in ms. S. Theoder.

Uerbum otiosum, &c.: S. Matt. xii. 36. Here text agrees with Vg. and also with *c*. Other O. L. variants are *de eo rat.* (so R), *pro eo rat.* (so BCF₃F₄), and *eius rat.*

8. Cum timore et trem.: Eph. vi. 5; Phil. ii. 12.

Reddaturi . . . rationem: Rom. xiv. 12, Unusquisque nostrum pro se rationem reddet Deo.

Ante trib. Christi: Rom. xiv. 10; 2 Cor. v. 10. In Rom. xiv. 10, *d, e, f, g* read *Dei*; but *gus, r*, Ambrosiast. and Aug. Enchirid., *Christi*.

9. Sermo et loquela: cf. S. John viii. 43, Quare loquelam meam non cognoscitis? Quia non potestis audire sermonem meum (*r*₁ has *uerbum meum*).

Per linguam—ueritatis: Ecclus. iv. 29, In lingua enim sapientia dignoscitur: et sensus, et scientia, et doctrina in uerbo sensati. *m* has, *In ling. enim cognoscitur sap. et sensus et sci. doctrinae in uerbis ueritatis*.

11. Propter retributionem: Ps. cxviii. 112.

Tardiori lingua: Exod. iv. 10, Tardiore lingua sum ego. (Cod. Lugd., Ambrose.)

Linguae—pacem: Is. xxxii. 4, Linguae balbutientium cito discent loqui pacem (Hieron. in Esai.). Vg., *Lingua balborum uslociter loquetur et plane*. LXX, αἱ γλώσσαι αἱ ψελλίζουσαι κ.τ.λ.

Aepistola Christi: 2 Cor. iii. 3.

In salutem—terrae: Acts xiii. 47. See § 38.

Scriptum—uiui: 2 Cor. iii. 2, 3. *d, e, g* have *inscripta*; but *scripta* (Vg.) is read by *f*, Hilary, Aug., and Jerome.

Et rusticationem, &c.: Ecclus. vii. 16, Non oderis laboriosa opera et rusticationem creatam ab Altissimo.

12. Priusquam humiliarer: Ps. cxviii. 67, Prius hum. ego deliqui.

Luto profundo: cp. Ps. lxxviii. 14, Erue me de luto . . . et de profundo aquarum. (Cod. Sangerm.)

Qui potens est: S. Luke i. 49.

Retribuendum—Domino: Echo of Ps. cxv. 12. See § 3.

13. Magni—Deum: Rev. xix. 5, Laudate Deum uestrum, omnes serui eius, et qui timetis Deum pusilli et magni (Primas.). *qui tim. cum g*, Vg.

Potentes in sermone: cf. Acts vii. 22, Potens in sermonibus (*d*): *uerbis e, g, p₂*, Vg.

Cum metu et reuerantia: Heb. xii. 28 (*f*, Vg.). *Cum metu d uerecundia d (e, g, gus non extant)*.

Sine querella: 1 Thess. ii. 10, iii. 13, v. 23.

Caritas Christi: 2 Cor. v. 14, Car. enim Chr. urguet nos.

14. Mensura fidei: Rom. xii. 3, Sicut Deus diuisit mensuram fidei. But in Rom. xii. 6 also, Hieron. and Eucherius read *secundum mens. fidei*, where Vg. with *d, e, f, g*, and other O. L. authorities have *ec. rationem fid.*

Sine reprehensione: These words occur in Phil. ii. 15 (*f*, Vg.). *d, e, g*, and most O. L. authorities have *immaculati*; but Auctor l. de dupl. mart. p. 587 .c. has *sine repreh.* Possibly the words are not a quotation at all.

Donum Dei: S. John iv. 10.

Consolationem aeternam: 2 Thess. ii. 15. *d, e* have *exhortationem*, but *f, g*, Ambrose, and other O. L. authorities *consolationem* with Vg.

Post obitum meum: 2 Pet. i. 15. O. L. not in Sab. *h* has *positis etiam corporibus*.

16. Spiritus . . . feruebat: cf. Acts xviii. 25, Feruens spiritu; Rom. xii. 11, Spiritu feruentes.

17. Responsum: Rom. xi. 4. In §§ 21, 29 (not A), 35 *diuinum* is added. Tycon. Reg. 3 om. *diuinum*.

Uiam meam dirigebat: cf. Gen. xxiv. 40, and passim.

18. Sugere mammellas: Possibly from Is. lx. 16. But see note, p. 287.

19. Inualuit super: cf. 2 Kings xiv. 10, Inualuisti super Edom (not extant in O. L.).

Conuertimini ex toto corde ad: Joel ii. 12. Vg. and Hieron. in Joel read *in toto corde*. But *m*, Cyprian, Ambrose, and Fulgentius give *ex*.

Est impossibile: cf. S. Luke i. 37, Non est imp. Deo omne uerbum (*e r₁*).

Defecerunt: cf. S. Matt. xv. 32, Dimittere eos ieiunos nolo ne deficiant in uia.

Semiuiui relictī: S. Luke x. 30, Semiuiuo relictō *a, ff, i, q*, Vg. *Demitto* is the verb in *c, d, e*.

Mel siluestre: S. Matt. iii. 4.

Partem obtulerunt: S. Luke xxiv. 42 (*b, f, q*), *Porrexerunt* is the verb in *a, d, e, r*.

Hoc immolaticum est: 1 Cor. x. 28. *Immolatum* Vg.; *Sacrificatum* D; *Immolaticium d, e, f, g*.

20. Quandiu—corpore: 2 Pet. i. 13, Quandiu sum, &c. So *h. Vulg.* has *tabernaculo* for *corpore*.

In die presuræ: Ps. xlix. 15. So Cypr. Testim. i. 16; iii. 30; and Acta Mart. SS. Montani, &c. (both quoted by Sab.). In § 5, the more usual *tribulationis* is used for *pressuræ*. In Hartel's ed. of Cyprian *tribulationis* is printed in the text in both places, but *pressuræ* is given as the reading of three or four mss.

In illa . . . Non uos estis, &c.: S. Matt. x. 19, 20, In illa hora, &c. Vg. and many O. L. mss. have *Non enim uos estis*, &c.

21. Responsum diuinum: Rom. xi. 4.

Liberauit me de man. eorum: cf. Gen. xxxvii. 21, Liberauit eum de man. eorum (Aug.).

23. Uidi in uisu noctis: Dan. vii. 13. Cypr. Testim. ii, 26 has *Uidebam . . . nocte*; Lact., Aug., *noctis*; Vg. and Lucif. Cal. have *in uisione noctis*.

Uno ore: 1 Kings xxii. 13; Rom. xv. 6.

Compunctus—corde: Ps. cviii. 17, Persecutus est . . . compunctum corde; Acts ii. 37, Compuncti sunt corde.

24. Nescio, Deus scit: 2 Cor. xii. 2.

Dedit animam, &c.: cf. 1 John iii. 16, Ille pro nobis an. suam posuit (Aug.).

25. Interiorem hominem: Eph. iii. 16.

Stupebam: Dan. viii. 27.

Spiritus adiuuat, &c.: Rom. viii. 26. *Infirmiorem nostræ orationis* is also found in Ambrosiaster, D and *f* (or. nostr.). *Infirmiorem nostram, nam quid—inennarrabilibus* is usual O. L. and Vg. For *inenarr. d* has *qui eloqui non possunt*; for which *quæ uerbis exprimi non possunt* is found in *tol. fuld. long*, S. Gall 70. The doublet as here is in Cod. Sangermanensis 15: cf. Berger, *La Vulgate*, p. 71.

Dominus aduocatus, &c: This is a confused recollection of 1 John ii. 1, Aduocatum habemus ad Patrem, Jesum Christum (Aug.),

and Rom. viii. 34, *Christus . . . postulat pro nobis* (Hil.), the usual O. L. and Vg. being *interpellat*. *g* has both.

26. *Impulsus sum ut caderem*: Ps. cxvii. 13. So Cod. Veron., Moz., and Aug. Vg., *impulsus eversus sum*, &c. Roman Psalter (Cod. Sangerm.), *Impulsus uersatus sum*, &c.

Proselito et peregrino: This may be a citation from Lev. xxv. 23, Ps. xxxviii. 13, or Ps. cxlv. 9. In Lev., Cod. Lugd. has *prosylyti et peregrini uos estis ante me*; Aug., *prosylyti et incolae*; Vg., *Aduenas et coloni*. *Peregrinus* is the rendering of *παρεπίδημος* in Ps. xxxviii., both Vg. and Roman Psalter; and in Ps. cxlv., where both Vg. and Roman Psalter (Cod. Sangerm.) have *Dominus custodit aduenas*, Hilary reads *prosylytum*, Aug. and Cod. Veron., *prosylytos*. *προσπάλυτος* is never transliterated in Vg. *Pros. et orphano* occurs in Fastidius' citation of Deut. x. 17 (so Cod. Lugd.), xxiv. 19. *Proselitus* occurs again in Conf. 59, Ep. 1.

Propter nomen suum: Ps. cv. 8, and passim.

Non illis reputetur: cf. 2 Tim. iv. 16, *Non illis imputetur*. Perh. an echo of Rom. iv. 3, *Reputatum est illi ad iustitiam* (*e, g, Vg.*).

27. *Occasionem inuenerunt*: Dan. vi. 5, *Non inueniemus Daniel huic aliquam occasionem*, &c.

Nescio, Deus scit: 2 Cor. xii. 2.

28. *Donec . . . deficiebam*: cf. Ps. xvii. 38, *Non conuertar donec deficiam*. The verb occurs also in Pss. xxxviii. 12, lxxxix. 7.

29. *Reprobatus*: cf. Ps. cxvii. 22, *Lapidem quem reprobauerunt aedificantes*. 1 Pet. ii. 7, *Lapis qui reprobatus est*, &c. (Hieron. in Esai.). Cf. § 12, "*Eram velut lapis . . . et collocauit me in summo pariete.*"

Uidi in uisu noctis: Dan. vii. 13. See § 23.

Responsum diuinum: Rom xi. 4.

Qui uos tangit, &c.: Zech. ii. 8. Vg., *Qui enim tetigerit uos tangit pupillam*, &c. Both Ambrose and Aug. have *quasi qui tangit*. *m* has *Quia qui tangit uos sicut qui tang. pup. oc. ipsius*. LXX., *τὸ ὀφθαλμοῦ αὐτοῦ*. Tert. and Vigil. Taps. have *oculi mei*, but most O. L. authorities *eius* or *ipsius*.

30. *Qui me confortauit*: cf. Phil. iv. 13, *Omnia possum in eo qui me confortat* (*f, Ambr., and Aug., as well as Vg.*).

Sensi—uirtutem: S. Mark v. 29, 30, 33.

Fides probata: cf. 1 Pet. i. 7, *Probatio uestrae fidei*.

31. Audenter dico : cf. Acts ii. 29, Liceat audenter dicere ad uos de patriarcha David (Vg. and Fulgentius). *cum fiducia d, e; constanter, g, p₁; audacter*, second hand of *p₂*.

Testem—mentibus : cf. 2 Cor. i. 23; Gal. i. 20. See § 54.

32. Defensionem : cf. 2 Tim. iv. 16, In prima mea defensione nemo affuit mihi.

Dehonestaret : cf. Prov. xxv. 8, Cum dehonestaueris amicum tuum.

O. L. not extant.

Maiores omnibus est : S. John x. 29, Pater . . . maius omni., &c. So *r₁*. *d* has *maior*.

33. Donum Dei : S. John iv. 10.

Terra capt. : 2 Chron. vi. 37, &c.

Propter inhabitantem Sp. eius : Rom. viii. 11.

Operatus est : cf. 1 Cor. xii. 11, Omnia operatur unus atque idem Spiritus.

Audenter : see § 31.

Caritatem Christi : 2 Cor. v. 14.

34. In die temptationis : Ps. xciv. 9. So Heb. Psalt.; Roman and Vg. have *secundum diem tent.*

Hostiam uiuentem : Rom. xii. 1.

Seruauit—angustiis meis : cf. Ps. xxxiii. 7, where Arnob. reads *ex omni. angustiis eripiet eum*. Cod. Sangerm., *tribulationibus . . . liberauit*. Heb. and Vg., *trib. . . saluauit*. Cod. Veron. *trib. . . saluum fecit*.

Quis ego sum, Domine? : 2 Sam. vii. 18.

Uocatio : 1 Cor. i. 26, vii. 20.

Exaltarem—nomen : cf. Ps. xxxiii. 4, Magnificate Dominum mecum et exaltemus nomen eius.

In nouissimis diebus : Acts ii. 17.

In testimonium omni. gent. ante finem mundi : S. Matt. xxiv. 14. See § 40, where the whole verse is quoted.

35. Quae uerbis expremere non ualeo : cf. Rom. viii. 26, Quae uerbis expremi non possunt, quoted in § 25.

Idiotam : see Acts iv. 13, Homines sine litteris et idiotae.

Responsum diuinum : Rom. xi. 4.

36. Numerum dierum noueram : Ps. xxxviii. 5, Notum fac mihi, Domine, . . . num. dier.

Sapiebam : cf. S. Matt. xvi. 23, Non sapis quae Dei sunt (*f, g*).

37. Aurem opprobrium peregr., &c.: Ecolus. xxix. 30, Impropium peregrinationis non audies.

Usque ad uincula: 2 Tim. ii. 9.

Promptus followed by *debitor* in § 38 seems an echo of Rom. i. 14, 15.

Animam meam lib. impendere: Echo of S. John xiii. 37, Animam meam pro te ponam, and of 2 Cor. xii. 15. See § 53.

Usque ad mortem: Phil ii. 30. See Ep. 1.

38. Ad te gentes uenient, &c.: Jer. xvi. 19. The citation here is most akin to that in *m*, Ad te gentes uenient ab extremo terrae et dicent: quam falsa possiderunt patres nostri idola! nec est in illis utilitas. Similarly Aug. l. 13, cont. Faust (Sab.)—*patres nostri simulacra et non est in eis utilitas*. Vg.—*et dicent, Vere mendacium possederunt patres nostri uanitatem, quae eis non profuit*.

Posui te lumen, &c.: Acts xiii. 47 (Is. xlix. 6). So *e*, except that it reads *in lumen . . . in extremum*. *g* om. *in* before *lumen*, and has *ad ultimum*. *d* also has *ad ultimum*. *D* agrees with the citation here, except that it ins. *illis* before *in sal*. *Ad ultimum* is the reading in Conf. 1, 11; *Ad extremum* here, and Ep. 6. *Ad extr.* is both O. L. and Vg. in Isaiah.

39. Expectare prom.: Acts i. 4, Expectarent promissum Patria. *e*, *g*, *p*. *Promissionem* is Vg. and also O. L.

Uenient ab oriente, &c.: S. Matt. viii. 11, Multi ab or. et occ. uenient. The omission of *multi*, and altered position of *uenient*, and insertion of *et ab austro et ab aquilone*, are found in S. Luke xiii. 29, (*et aq. et austro*). Irenaeus similarly mixes the two texts. The text is quoted Ep. § 18 without this insertion.

40. Uenite post me, &c.: S. Matt. iv. 19; S. Mark i. 17. *h*, Ambr. and Aug. om. *fieri*, as in CF₃F₄.

Ecce mitto piscatores, &c.: Jer. xvi. 16, Ecce ego mittam pisc. mult., et piscabuntur illos (Tert.); et multos uenatores et uenabuntur eos (Ambrose). Ambr. in Ps. cxviii. (Sab.) reads as here, *Ecce mitto*. Cod. Virc., *Ecce dismitto peccatores multos*. F 3 has *peccatores* here.

Multitudo copiosa: S. Luke v. 6.

Euntes ergo nunc, &c.: S. Matt. xxviii. 19, 20. Vg. with *e*, *e*, *f*, *f*, *g*, *g*, *q* om. *nunc*, and reads *seruare* for *obseruare*. *Nunc* is found in *a*, *b*, *d*, *h*, *n*; *obseruare* in *e* and *g*, also *D*; *eas* in *e* and *n*. No ms. has both *ergo* and *nunc* as here. The variant of Boll., *dixero*, is a reminiscence of S. John xiv. 26.

Euntes ergo in mundum, &c.: S. Mark xvi. 15, 16. Vg. om. *ergo*.

Its insertion here is possibly due to S. Matt. xxviii. 19. There are very few O. L. texts of these verses extant; only *e*, *o* and *q*. *a* and *r*₁ are Vg. here, and *aur* is not considered purely O. L. The three O. L. mss. agree in reading, *orbem . . . uniuersae . . . damnabitur* for *mundum . . . omni . . . condemnabitur*. For *Euntes*, *c*, *q*, *aur* have *Ita*. *aur* also has *uniuersae* and *damnabitur*.

Prædicabitur, &c. : S. Matt. xxiv. 14. For *mundo* and *finis* Vg. has *orbe* and *consummatio*. All are O. L. readings, *mundo* in *d*; *finis*, in *d*, *e*, *f*, *h*, *q*, *r*₂; *orbe* and *consummatio* in *a*, *ff*₁, *g*₁, *μ* (*per totam orbem* *r*₁, *r*₂, *μ*).

Et erit in nouissimis, &c. : Acts ii. 17 (Joel ii, 28). Vg. for *filii* (2) has *iuuenes*, and so all O. L. authorities.

Et in Osee dicit, Uocabo non plebem, &c. : Rom. ix. 25, 26 (Hos. i. 10, ii. 21). After *meam* (2) *et non dilectam*, *dilectam* is ins. by *d*, *e*, *f*, *g*, and Vg. On the other hand, *d*, *e*, *f*, *g*, om. *et non mis. cons. mis. cons.* which is in Vg.; but these words are found in Iren., Tert., and Hieron. in Osee.

43. Alligatus spiritu : Acts xx. 22. (Vg.). *Uinctus* is the reading of *e*, *g*; *ligatus* of *d*.

Mihi protestatur : Acts xx. 23. (Vg.). *Prot. mihi* = D, *d*, *e*, *g*.

Si Dom. uoluerit : James iv. 15.

Peccem coram : cf. S. Luke xv. 18, *Peccau* . . . coram te.

44. Quandiu—corpore mortis : 2 Pet. i. 13. See § 20. The addition here of *mortis* is from Rom. vii. 24, *Quis me liberabit de corp. mortis huius*?

Caro inimica : cf. Rom. viii. 7, *Sapientia carnis inimica est Deo*. Cf. Gal. v. 17.

Scio ex parte : 1 Cor. xiii. 9, *Ex parte enim scimus* (*d*, *e*, Aug.) *cognoscimus* *f*, Vg., Iren., Ambros.; *g* has both.

Quia non mentior : Gal. i. 20.

A iuuentute mea : Ps. lxxxvii. 16.

Fidem seruauit : 2 Tim. iv. 7.

45. Ante temp. saecularia : 2 Tim. i. 9. Cf. Tit. i. 2. Perh. an echo of Acts xv. 18, *Nota a saeculo est Deo omnia opera eius* (*e*).

46. Adiutor : cf. 1 Cor. iii. 9, *Dei enim sumus adiutores*.

Suggerebat : S. John xiv. 26, *Sp. . . suggeret vobis quaecumque dixero* (*e*). *r*₁ has *commemorabit*.

Misertus est . . . in milia milium : cf. Exod. xx. 6, *Faciens*

miseriordiam in millia millium (Fulg. & Auct. quæst. Vet. Test.).
Vg. om. *millium*.

47. Praedixi et praedico : 2 Cor. xiii. 2.

Filius sap. gl'ria patris est : Prov. x. 1 ; xv. 20. Ὑἱὸς σοφὸς
ἐνφραίνει πατέρα (LXX) Fil. sap. laetificat patrem (Vg.). So also *m*
(*a, μ*).

48. Conuersatus sum : Acts xxiii. 1.

A inuentute mea : see § 44.

Circumueni : 2 Cor. vii. 2, xii. 17.

Excitem . . . persecutionem : cf. Acts xiii. 50, Excitauerunt pers.
(Vg.). But *d, e, g* read *suscitauerunt*.

Uae homini, &c. : Sab. on Rom. ii. 24 gives a citation from
Maxim. Taur., p. 4, g. almost identical with this, *Uae illi hom.*, &c.
The quotation is a mixture of Rom. ii. 24, Nomen enim Dei per
uos blasphematur, and S. Matt. xviii. 7, Uae illi homini per quem
scandalum uenit (*e*).

49. Nam etsi imperitus sum in omnibus : 2 Cor. xi. 6, Etsi imp.
sum sermone, sed non scientia, sed in omni manifestatus, &c. (*d, e*).
For *omni, f, g, r*, Vg., Ambrosiast., Beda, Sedul. read *omnibus*. Vg.
also has *Nam etsi*.

Capent : cf. 2 Cor. vii. 2, Capite nos . . . neminem circumuenimus.

50. Dicite—calceamenti : An echo of 1 Sam. xii. 3, Si de alicuius
manu accepi propitiationem uel calceamentum (ἐξίλασμα καὶ ὑπόδημα)
dicite aduersus me et reddam uobis (vet. Irenaei Interp.). *m* has *Si*
ex alio. man. acc. pro exorations uel corrigiam calciamentorum, &c.

51. Impendi pro : 2 Cor. xii. 15.

Capent : see § 49.

Libentissime : 2 Cor. xii. 15.

52. Necessarios amicos : Acts x. 24, Conuocatis . . . necessariis
amicis.

53. Fruamini . . . fruar : cf. Rom. xv. 24, Si uobis primum ex
parte fruius fuero.

Impendo, &c. : 2 Cor. xii. 15, Libentissime inpendam et ipse
inpendar pro animabus uestris (*g, r*) ; *intendar* . . . *animis d, e* ;
superimpendar ipse pro an., &c. Vg. ; Ins. *et superimpendam bel. et ipse*
d, e, and Ambrosiast.

54. Testem—meam : 2 Cor. i. 23. So *f, r, Ambr., Aug. ; meam an. d, e, g.*

Quia non mentior : Gal. i. 20, Ecce coram Deo, quia, &c.

Occasio—auaritia: An echo of 1 Thess. ii. 5, Neque enim aliquando in sermone adulationis fuimus, sicut acitis, neque in occasionem auaritia; Deus testis est (*d, e*).

Fidelis—mentitur: cf. Heb. x. 23, Fid. est qui prom. (*r*); *repro-misit d, e*, and Vg.; also Tit. i. 2, In spem uitae aeternae, quam promisit (*pollicitus est, g*) non mendax Deus (*d, e, &c.*). Ambrose has *fidelis Deus, qui non mentitur. Qui non ment. Deus f, Vg.*

55. Praesenti saeculo : Gal. i. 4, Eriperet nos de praes. saec. malo (*d, e, g*).

Supra modum: cf. 2 Cor. i. 8, xi. 23, xii. 11, and passim.

Pauper : 2 Cor. viii. 9, Propter uos pauper factus est (*D, d, e, g, r*); *egenus Vg., f.*

Neque meipsum iudico : 1 Cor. iv. 3.

Sed nihil horum uereor : Acts xx. 24 (Vg.). Sed nihil horum cura est mihi *d*; Sed neminum rationem facio *e*; Sed pro nichilo estimo animam meam esse caram michi *g*.

Iacta cogitatum, &c.: Ps. liv. 23, Iacta in Domino cog. . . . nutriet (Cod. Sangerm.). Fulg., Leo, Ambrose, Cassiod. have *in Deum*; Aug. and Moz., *enutriet*; Cod. Veron., *Iacta in Dominum curam tuam ; et ipse te enutriet*. So Vg., except that it has *super* for *is*.

56. Commendo an. fid.: cf. 1 Pet. iv. 19, Quasi fideli Creatori commendantes animas uestras (Hil.).

Pro quo leg. fungor : Eph. vi. 20, Pro quo legatione fung. in catecha. See Ep. 5, where acc. is again found.

Personam non accipit : Gal. ii. 6; Deut. x. 17.

Elegit : cf. St. John xv. 16, 19.

Suis minimis : Echo of St. Matt. xxv. 40, Fecistis uni ex his fratribus meis minimis *g, h, r, r, μ, Vg., Tycon.*

57. Retribuam, &c.: Ps. cxv. 12, Quid retrib. Domino pro omn. quae retribuit mihi. So Cod. Veron., Aug., and Ambrose, as well as Vg.; Cod. Sangerm., *retribuit*.

Scrutatur—renes : Ps. vii. 10, Scrutans cord. et ren., Deus.

Bibere calicem : St. Matt. xx. 28.

58. Plebem—adquisiuit : Is. xliii. 21, Pleb. meam quam adquisiui (Cyp. Epist. 63, Testim. i. 12). Cf. Acts xx. 28.

59. Uolucres caeli comederent : 1 Kings xvi. 4. &c.

Filii Dei—Christi : Rom. viii. 16, 17 ; ix. 26.

Conformes—imagine : Rom. viii. 29, Conformes fieri imagine filii eius.

Quoniam—Amen : Rom. xi. 36. *d, e, g, m* have *in ipsum* ; but *f, gus*, and other O. L. authorities, as well as Vg., *ipso* ; *d, e* om. *sunt*, which Novat. and Cypr. have. Cypr., Hil., Aug., have *sacculorum*, which Vg. om.

60. Permanebit : cf. Ps. lxxi. 5, Permanebit cum sole.

Qui fecerat—eternum : 1 John ii. 17, Qui autem fecerit voluntatem Dei manet in eternum (Aug.) ; Ps. lxxxviii. 37, Semen eius in eternum manebit.

61. Testificor—angelis : cf. 1 Tim. v. 21, Testor coram Deo et Christo Iesu et electis angelis. *Angelis sanctis* is from S. Mark viii. 38, or S. Luke ix. 26.

62. Donum Dei : S. John iv. 10.

EPISTOLA.

1. Accepi : cf. 1 Cor. iv. 7, Quid autem habes quod non accepisti ? Id quod sum : 1 Cor. xv. 10, Gratia autem Dei sum id quod sum. So *f, g, Hil., Ambr., Aug.*, as well as Vg. ; *d, e* om. *id*.

Proselitus : See Conf. § 26.

Zelo Dei : Rom. x. 2, Zelum Dei habent (*f, g, Ambr., and Aug.*). *aemulationem d, e*, and Vg.

Ueritatis Christi : 2 Cor. xi. 10, Est ueritas Christi in me, &c.

Tradidi . . . animam . . . usque ad mortem : Phil. ii. 30, Usque ad mortem accessit, in interitum tradens animam suam (Ambrosiast.). Vg. om. *in interitum*. *d* and *e* (nearly) read, Usque ad mort. acc. parabolatus de animam suam. Dr. Gwynn thinks *in interitum* is a corruption of *ad incertum*, which is found in D and the Latin version of the Commentary by Theod. Mops.

4. Qui facit peccatum, &c. : S. John viii. 34. Om. *peccati b, d*, and Cypr. De Dom. Or. 10. So here, CF₄F₄.

Filius Zabuli : cf. S. John viii. 44, Uos ex patre diabolo estis.

5. Pro quo leg. fungor : Eph. vi. 20. See Conf. § 56.

Lupi rapaces : Acts xx. 29, Intrabunt . . . lupi rap. in uos non

parentes gregi (Vg.); *rapaces* is found in Lucif. Cal., *graves* in D, *d*, *e*, *g*. *Lupi rapaces* also occurs in S. Matt. vii. 15.

Deuorantes, &c.: Pss. xiii. 4, lii. 5, Qui deuorant pleb. meam sicut escam panis. So Vg. and Cod. Sangerm. in Ps. xiii. Cod. Veron. and Heb., *ut cibum*; and so Aug., *sicut cib*. In Ps. lii. Vg. and Heb. have *ut cib*.; and Cod. Sang. *sicut escam*: but *sicut cib*. is found in some O. L. authorities. Cod. Veron., *in cibum*.

Iniqui dissipauerunt, &c.: Ps. cxviii. 126, Et tempus faciendi Domino, dissip. iniqui leg. tu. (Cod. Sangerm.) Other O. L. authorities have, with Vg., *Domine*. Vg. and Cod. Veron. om. *iniqui*.

6. Aduocauit et praedest: This seems like a citation from Rom. viii. 30, Quos autem praed. eos et uocauit *d*, but *uocauit* is the only reading cited there.

Usque ad extremum terrae: Acts xiii. 47.

Elegit: cf. S. John xv. 16, 19.

Quos ligarent, &c.: S. Matt. xvi. 19, xviii. 18.

7. Sancti et humiles corde: Dan. iii. 87.

8. Dona—Altissimus: Ecclus. xxxiv. 23. Vg. has *non probat*.

Qui offert—patris sui: Ecclus. xxxiv. 24. (*m*, *profert* . . . *pauperis* . . . *percussit fil*.)

Diuitias—inextinguibilis: Job xx. 15, 16, 26. Sabatier's citation from MS. Maj. Mon. is as follows:—Diuitiae inique [Ambr. *iniuste*] congregatae euomentur: de domo eius protrahet eum angelus. Et furorem draconum mulcebit. interficiat illum lingua colubri . . . comedat eum ignis inextinguibilis. The additions of *de uentre eius* . . . *mortis* are in the LXX. of A, not of B & C. A also reads *ἐξ δικίας αἰτοῦ*, and has *θυμὸς δὲ δρακόντων θηλάσει* for *θυμὸν* . . . *θηλάσειεν*.

Vg. has Diuitias quas deuorauit euomet, et de uentre illius extrahet eas Deus. Caput aspidum suget, et occidet eum lingua uiperæ . . . Deuorabit eum ignis qui non succenditur.

On Sabatier's O. L. text of Job, see Hastings' D. B. iii., p. 50, note.

Uae qui replent—sua: Hab. ii. 6, Οὐαὶ ὁ πληθύνων ἑαυτῷ τὰ οὐκ ὄντα αἰτοῦ. Uae qui multiplicat sibi quae non sunt sua (Hieron.).

Quid prodest—patiatur: S. Matt. xvi. 26. Vg. and *g*₁ here have, Quid enim . . . si mundum uniuersum luc., an. uero suae detr. pat.; but *a*, *d*, *f*, *ff*₂ have *totum mundum*. *r*₂ has *hunc mundum*. The insertion in Boll., *se—perdat*, is from S. Luke ix. 25.

9. Non concupisces rem prox., &c.: Exod. xx. 17; Deut. v. 21. *Rem* is not Vg. of either passage. In Exod. it reads *Non con. domum prox. tui*. In Deut. Cod. Lugd. has *Non concup. . . ullam rem quas fuerit prox. tui*. However, the quotation is certainly from Rom. xiii. 9, where the reading is found in *gig.* and several other Vg. mss. mentioned by Berger, *La Vulgate*, pp. 76, 143. So Aug. (once) and Auct. l. de promiss.

Non occides: Rom. xiii. 9; Exod. xx. 13.

Homicida—adscibitur: This is gathered from 1 John iii. 15, *Omnis qui odit fratrem suum, homicida est. Et scitis quia omnis homicida non habet uitam aeternam in se manentem (Aug.)*.

Qui non dil. fratrem suum, &c.: 1 John iii. 14. Vg. om. *fratrem suum*, and reads *manet in morte*. The insertion is found in Tyconius Reg. 6, also D.

Adquisiuit: Is. xliii. 21; Acts xx. 28. See Conf. 58.

10. Secundum carnem: 2 Cor. i. 17, and passim.

Alligatus spiritu: Acts xx. 22. See Conf. § 43.

Perennis uitae, &c.: Rom. vi. 23, *Gratia autem Dei uita aeterna in Christo Iesu Domino nostro*.

11. Propheta—habet: S. John iv. 44 (*e*); in *sua patria d, ff, q, Vg.*

Uno ouili: S. John x. 16. The only O. L. authorities that read *unum ouile* are *δ* and Aug. in Joh. once. The usual O. L. is *unus grex* or *una grex*. But the reference may be to the previous part of the verse, *Et alias oues habeo quas non sunt ex hoc ouili*, since the emphasis here is laid, not on the unity but on the identity of the fold. Mr. F. C. Burkitt does not consider *δ* an O. L. authority, and informs me that *b* and *f* alone read *ex*; the rest of the extant O. L. texts (*a, c, d, e, ff, r*) all have *de*.

Unum Deum Patrem: Eph. iv. 6. See 18.

Qui—spargit: S. Matt. xii. 30. So *f, q, h* (nearly), as well as Vg. Some O. L. variants are *aduersus . . . colligit . . . dispargit*.

Unus destruit, &c.: Ecclus. xxxiv. 28, *Unus aedificans et unus destruens: quid prodest illis nisi labor?* cf. Gal. ii. 18, *Si enim quas destruxi, haec iterum aedifico, &c.*

Non quaero, &c.: 1 Cor. xiii. 5, *Caritas . . . non quaerit quae sua sunt*. Cf. 2 Cor. xii. 14, *Non enim quaero quae uestra sunt, sed uos*.

Gratia . . . sollicitudinem in corde: cf. 2 Cor. viii. 16, *Gratias autem Deo, qui dedit eandem sollicit. pro uobis in corde Titi*.

Uenatoribus . . . piscatoribus : Jer. xvi. 16.

In nouissimis diebus : Acts ii. 17.

12. Lupi rapaces : S. Matt. vii. 15 ; Acts xx. 29.

Iniuria iustorum, &c. : Ecclus. ix. 17, Non placeat tibi iniuria iniustorum, sciens quoniam usque ad inferos non placebit impius.

13. Mortem—operantur : cf. 2 Cor. vii. 10, Huius saeculi tristitia mortem operatur.

14. Membra Christi : cf. 1 Cor vi. 15, Tollens ergo membra Christi, faciam membra meretricis ?

Non solum, &c. : A loose quotation of Rom. i. 32. Gelasius similarly supplies an accusative, *Qui faciunt prava.*

15. Quid—loquar : S. John xii. 49.

Supra modum : see Conf. § 55.

Flete, &c. : Rom. xii. 15, Flere, &c. D, Beda and Sedul. have *Flete*.

Si dolet . . . condoleant : 1 Cor. xii. 26, Si quid patitur . . . compatiuntur, &c.

16. Praeualuit—super nos : cf. Ps. lxiv. 4, Verba iniquorum praeualuerunt super nos. *Iniquitas iniqui* is found in Ezek. xviii. 20, xxxiii. 12. (O. L.)

Extranei facti : Ps. lxxviii. 9, Extraneus factus sum fratribus meis. So Cassiodorus as well as Vg. *Exter* is the reading of Cod. Sangerm., *Alienus* of Cod. Veron.

Unum baptismum . . . unum Deum Pat. : Eph. iv. 5, 6, Unum baptisma ; unus Deus et Pater omnium.

Nonne—suum : Mal. ii. 10, Nonne Pater unus omnium uestrum ? Nonne Deus unus creauit uos ? Quare reliquistis unusquisque fratrem suum ? (Hieron. in Malac.). Cypr. Testim. iii. 3 has, *Nonne Deus unus condidit nos ? Nonne Pater unus est omn. nostrum ? Quid utique dereliquistis*, &c. Vg. has *Numquid non* for *nonne*, and *Quare ergo despicit unusq. nostrum frat.*, also *nostrum* for *uestrum*.

17. Laborauī . . . in uacuum : Phil. ii. 16, Neque in uacuum laborauī.

Nox—amplius : Rev. xxii. 5, xxi. 4. Et nox iam non erit. . . et mors iam non erit neque luctus (Primas.). *Amplius* is found for *iam* in Iren. and Ambr. *g* and Vg. have *ultra* in both places.

Exultabitis—pedibus uestris: Mal. iv. 2, 3. The quotation is found in exactly the same form in Aug. *De Civ. Dei*. xviii. 35, col. 518, 519. Hieron. in Malac. gives it, *Salietis sicut vit. de uinculis relaxati. Et concul . . . subter pedes uestros.*

18. Uenient, &c.: S. Matt. viii. 11.

Foris canes—homicidae: Rev. xxii. 15.

Mendacibus—ignis: Rev. xxi. 8, Homicidis . . . et ueneficis . . . et omnibus mendac. pars erit in stagno ignis (Primas). . . *Pars illorum in stagno ignis ardentis, m; Pars eorum in stagno ardenti igne, &c., g.*

Ubi iustus—recognoscet: 1 Pet. iv. 18, Et si iustus quidem uix saluus sit peccator et impius ubi parebunt? (Aug. in Rom.) Vg.—*saluabitur, impius et peccator, &c.; saluus erit* is also found in Aug., D, and h, which last also has *parabit for parebunt.*

19. Fumus qui . . . uento dispergitur: Sap. v. 15, Spes impii . . . tanquam spuma gracilis, quae a procella dispergitur, et tanquam fumus qui a uento diffusus est. This is also quoted by Gildas, as Mr. F. C. Burkitt informs me.

Peccatores—epulentur: cf. Ps. lxxvii. 3, 4, Sicut deficit fumus, ita deficiant . . . sic pereant pecc. a facie Dei. Et iusti epulentur (Cod. Sangerm.). Cod. Veron. om. *ita* and *et*.

20. Testificor, &c.: cf. 1 Tim. v. 21. See Conf. § 61.

Qui crediderit, &c.: S. Mark xvi. 16.

Deus locutus est: cf. Pss. lix. 8, cvii. 8, Deus loc. est in sancto suo.

APPENDIX

ON THE SYSTEM OF SPELLING ADOPTED IN THIS EDITION, AND ON THE UNIMPORTANT VARIANTS OF THE MSS.

In view of the unique interest attaching to A, and its great antiquity as compared with that of the other mss. of the *Libri S. Patricii*, it has been thought best to present to the reader, either in the text or in the foot-notes, the word-forms of that ms. wherever it is available.

At the same time it would be unreasonable to burden the foot-notes, except in a very few cases, with details of the deviations in spelling of the other mss. Accordingly the reader may assume, in the case of the words here subjoined, that the other mss. present the usual spelling, unless it is expressly stated to the contrary. The mere blunders of the scribe of A are not here recorded, as they have been noticed in the foot-notes. The peculiar forms of words found in A are, with very few exceptions, those found in the version of the New Testament contained in the Book of Armagh. Those not so found are marked with an asterisk.

The numerals refer to the sections of the text.

Consonants Doubled.

missertus, 2; uisibilia, 4; otiossum, 7; ollim; *hesitau, 9; excussatio, 10; misericordia, 12; querella, 13; *intermissi, 17; nissi, 24, 41; uissu, 29; promisserat, 38; Issac, 39; copiosa; dissiderantem, 40; occassio, 54, 55; pussillum, 62.

a substituted for e.

reuerantia, 13.

e substituted for a.

seperau, 18.

e substituted for i.

incederem (so *rell.* except R); dedici, 9; desertus, 10, 11; itenere, 18, 22; *mammellas, 18; conuertemini, 19; intellegere (so CFs), 24; expremi, 25; expremere, 35; diligenter; indigentem, 40.

i substituted for e.

dilicta, 2; adoliscentie, 2; adoliscens, 10 (for spellings in other mss., see further on); uehementer, 8, 10; ciciidit, 20; disertum, 19, 22; interficerunt, siluistre, 19; suscipiunt, 23; gaudibundus, 24; dissiderantem, 40; diliciae, 55; *internicionem (not in N.T.), 55.

u substituted for o.

consulatus, 2; consulationem, 14; inductus, 12 (but indoctus, 62); idala, 41 (but idola, 33).

Miscellaneous.

ae pistola, 11, 23 (bis); aeuangelium, 20, 39, 40 (bis); alenigenas, 1; baptizo, 14, 40 (ter); motarunt, 9; oboedientes, 1, 4 (so F₃); pluuiam, 16; presuras 20; profetam, 5; profetas, 38; spiritaliter (so CF₃R), 4; tanguit, 29 (bis); ihs xpc, ihesus xpistus, xpistiane.

Where A is not available the general consensus of the other mss. has been followed. The spellings, *nichi*, *nichil*, common in BF₃R, and *nunquam*, *unquam*, usual in BF₄, have been left unnoticed.

The diphthongs *ae* and *oe* are very seldom written in full in these mss.; *e* or *o* is usually found. In the present edition the A and non-A sections have been assimilated in this respect.

*List of Unimportant Variations.**Confessio.*

1. Patritius B...; diaconem *rell.*...; presbiteri *rell.* R ambiguous;...; Tabernie BF₄; Tabernie C; Taßnie F₃R...; sedecim *rell.*...; Hyberione B, so also in Conf. 16 (23, 62 *Boll.*)...; custodimus B...; inobedentes F₄...; ammonabant B.

2. apperuit F₃...; adolescentie BR; adulescentie CF₃F₄...; distinguere C.

3. beneficia R...; agnitionem B.

4. originem C...; hominum C...; abunde CF₃R...; immortalitatis B.

5. honorificam R.

6. opto F₃.

7. locuntur CF₃R...; mendatium BF₃R...; isdem Dom. CF₄...; eunangelio R, so in Conf. 20...; ociosum B; otium R*...; loquuti B...; rationem B; iuditii R...

8. rationem B.

9. litteras *rell.*...; cumbiberant CF₃F₄*; comb. F₄ *corr.* R...; inquit F₃...; sensus B...

10. appeto BCF₄...; comparaui B...; adolescens BRF₄ *corr.*; aduliscens CF₄*; adhuliscens F₃...; poene C...; appeterem B...; affectus BCF₃...

11. uerumptamen F₃...; insecitia C...; tardiori lingue *rell.*...; balbutientis F₃*B...; discendo qui F₃* *altered to* discent loqui...; appetere B...; inquit F₃F₄...; sed sed ratum B...; rusticitatio CF₄.

12. rusticius CF₄...; imposterum B...; alleuauit R...; extimare B; estimare *rell.*...

13. admiramini CF₃F₄R...; nethorici CF₄...; scutamini F₃...; potentis C...

14. oportet F₃...; fidutialiter BR...; uibique CF₄...

15. erumnas CF₃F₄; erunnas R...; iuuenta F₄...

16. Hyberione B...; peccora F₄*...; oraciones B...; mente C^oR*; mte F₃F₄; mente is thus written in F₃F₄ in Ep. 12...; oracionem B...; pigricia B...
17. ibi notam C*...; dirigebar F₃...; nichilo F₄.
18. gubernator C...; appetas B...; audissem *rell.*...; itiner F₃...; oracionem B...; quolueris C *for* quomodo volueris...; mic dicerent F₃.
19. famis CF₃F₄*R...; cybum F₃...; saciemini B...; abundat CF₃...; sumnas F₃...; hec die habundanter cybum F₃...
20. Sathanas BR...; uelut B...; Eliam *Boll.*...; euuangelio R...; inquit R...
21. dicente F₃.
22. cybum F₃...; cybo F₃.
23. tribulatas F₃*...; discedere B...; Uictoritus R...; continenter *Boll.*...; silua C...; hore F₃...; patui F₃.
24. Deus sit F₃...; perritissimis F₃.
25. interriorem F₃.
26. temptatus F₃...; utque C.
27. anxietatem R.
28. memoratus C.
29. magis deleo F₃...; Cui ergo C...; puplice CF₄.
30. audienter F₃...; sit Deus F₃.
31. confitenter F₃...; angustis meus F₃...; adgreder C, aggrededer F₄.
32. hautem F₄...; possimus F₃*...; paupcolum F₃...; creber admoneret F₃...
33. adquesini F₃...; euuangelium F₃...; persecutionis CF₃...; proptus (*pptus*) CF₃.
34. ueniente C; uenientem F₃...; sumpsit F₃...; prophetas suas suos F₃...; conparuerunt CF₃F₄*.
35. polliciter F₃...; Abraham *Boll.* CF₄; Habraham F₃.
36. peccatores *for* piscatores F₃ (so in Ep. 12)...; itarrum F₃...; copioes C...; exortarent CF₃...; admonet *rell.*...; Euntas ego (1) F₃...; consumptione F₃...; prenuntiat F₃...; Ose F₃; Osee F₄, with erasure under last o...; pleps C.
37. filiis cottorum F₃.
38. gentiua C; genetius F₄...; persecutionum F₃*...; impropria B...; apparentibus CF₄*...; nihilhominus C...; asidue B; adsidue C; assidue F₄...; imitantur B.
39. amitere B...; brithannus B; britannus F₄*...; sic hoc C...; rerum me C...; pendere laborem C...; reasidium F₃.
40. illecebras BF₄.
41. gracias B...; irascetur C...; detestatu meo F₃...; mitit B...; Domini *for* Deum C...; intellegi C...; gratiam B.
42. insuau CF₃F₄*...; roboranrandam F₃...; immitemini B; immittemini F₃.
43. nēmen *for* neminem F₃...; circumueni B.
44. religiosis B...; altere B...; hornamentis B...; propter spere C...; perhennitatis BF₄...; minino F₃...; detrectare F₄.
45. aliqua illorum F₃*...; dimedio C...; precium B.
46. extras CF₃F₄*.

52. commitibus F₃ . . . ; audisse B . . . ; uixerunt BF₃ . . . ; potesta C . . . ; reditum B.

53. quatum ego C . . . ; precium B . . . ; franamini F₃ . . . ; poterit est Dominus F₃^{*}.

54. ocasio F₃ . . . ; aerarem uestrum F₃ . . . ; nundum B.

55. diuicias B . . . ; opus F₄ . . . ; circumueniri B . . . ; internationem BF₃ . . . ; ocasio F₃.

56. amitam B . . . ; ora Deum F₃ . . . ; perseuerentiam F₃.

59. inmitatus F₃ . . . ; miserrissime F₃ . . . ; aspersis C . . . ; filium Dei C.

60. cottidie F₃.

62. ignoratia F₃.

Epistola.

1. ab amorem F₄ . . . ; obtabam CF₄ . . . ; et ore *for* ex ore F₃ . . . ; si dignum CF₃ . . . ; suum C . . . ; contemptior C ; contempnor F₄.

3. presbytero quam ego F₃ . . . ; diillis F₃.

4. perhenne CF₄.

6. egegit F₃ . . . ; summa F₃.

7. adhulari F₃ . . . ; Cristi C.

8. offeret C . . . ; diuitia F₄ *corr.* . . . ; inquit C . . . ; linguam C.

9. his qui non F₃ . . . ; insuare F₃ . . . ; occidis F₃^{*} . . . ; homicidia F₃F₄ . . . ; extationem C ; exortationem F₃.

10. perhennis F₄.

11. cognosunt C.

12. peccatoribus *for* piscatoribus F₃ . . . ; dispicior F₃ . . . ; consumma C . . . ; istorum C . . .

13. orreat F₃ . . . ; cybum F₃.

14. membris F₃ . . . ; dampnandi F₃.

15. aecclesia C . . . ; gladios F₄^{*} . . . ; abundat BF₃.

16. tristicia B . . . ; speciosissime C ; spetiosissimi B . . . ; Yberia B . . . ; unusquisque C.

17. ineffabilem F₃ . . . ; gracias B . . . ; paradysum B.

18. Martiribus F₃F₄ . . . ; ysaac B . . . ; canis F₃ . . . ; homicidie F₃ . . . ; par F₃.

19. Cristri C . . . ; Cristo CF₃F₄.

20. quo ita erit F₃ . . . ; eim C . . . ; loquutus B.

21. queso BF₃ . . . ; propmtus B ; promptus C . . . ; literarum B . . . ; subtrahatur ammine F₃ . . . ; inpie F₃.

NOTE ADDED IN PRESS.

After the Latin text of this edition had been printed, Professor Bury kindly communicated to me the following note on p. 240, l. 15:—"I take *sugere mammellas* to be an interesting piece of evidence for a primitive ceremony of adoption. It is the custom among some peoples, in adopting children, to go through the form of a mock birth. (See J. G. Frazer, *Golden Bough*, ed. 2, vol. i., p. 21.) In some cases, the child to be adopted is placed under the gown or dress of the adoptive mother, and has to creep out—a make-believe birth. The existence of such ceremonies justifies us in supposing that the phrase *sug. mamm.* arose out of a make-believe suckling, and meant, 'to be adopted by.' It will be admitted that this gives just the required sense in the Confession. It need not be inferred that any of the men proposed literally to 'adopt' Patrick; it may mean no more than 'I refused to enter into a close intimacy with them.' Just as we say, 'I had no intention of letting myself be adopted by them.'"

In addition to the above, Professor Bury sent me the following corrections:—

P. 238, l. 6. *Sed si itaque*, &c.—"It seems to me that *Uerumtamen* begins a new sentence. The words *Sed si—caeteris* are a complete sentence expressing a wish: 'But if only it had been given to me, &c.'—grammatically an aposiopesis. Following this, *uerumtamen* expresses what the context demands: 'Nevertheless, though it was not so given,' &c."

P. 239, l. 5. "I think you must have felt that the verbal sense which your rendering of this difficult passage gives is unsatisfactory, as *doctrina* is quite irrelevant to the context. I used to think that *distinguere* must be corrupt, some meaning like 'endeavour' being required; but I have since come to think that the author used it in the sense of 'decide' (for the natural transition from 'distinguish' to 'decide' or 'determine' cp. *cerno*, *κρίνω*, &c.); the following infinitives depend on it: 'Depending then on the measure of my religious faith, it behoves me to decide to spread,' &c."

P. 239, l. 7. "I should like you to reconsider your translation of *fiducialiter* as if it were *confidenter*. It seems to me to be much stronger. In juxtaposition with *exagallias*, I have no doubt that P. was fully conscious that it was a legal term. It might be rendered 'as a trust.' Though *not legis peritus*, he shows here that he knew some legal terms."

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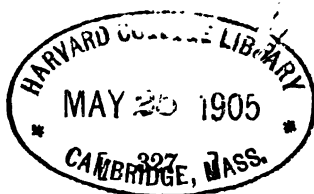
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The Academy.

VIII.

A SURVEY OF THE ANCIENT CHURCHES IN THE COUNTY
OF LIMERICK.

BY THOMAS JOHNSON WESTROPP, M.A.

[PLATES X.-XVIII.]

[Read NOVEMBER 30, 1904. Ordered for Publication DECEMBER 14, 1904.
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LIMERICK, the central county of Munster, and a focus of interest in Irish History, affords a rich field to workers on antiquities. It seems to possess more ancient forts in proportion to its size than any other district in Ireland; the alignments and circles of great pillars in the district round Lough Gur give it a marked position in the records of pre-historic archæology. When a school arises to study the mediæval castles and fortified towns, Limerick and Adare, Askeaton and Kilmallock will demand much of its attention: how numerous and interesting are the churches and monasteries I will try to suggest in this Paper. The county has suffered unusually from the great defect of Irish archæology—the lack of full and careful lists of its remains. It is the first need of Irish archæology; and, when done, past work can be classified, and future work kept in touch with what has been already accomplished, until scientific knowledge of Irish antiquities becomes a possibility.

It might have been thought that the great work of Dr. Reeves on "The Churches of Down and Connor" should have had a host of imitators; but this is far from being the case, so, perhaps, even a less learned and complete survey may be acceptable. Despite the large number of churches dealt with here, and the difficulty I have found in even partially exploring my native county, I hope that the Academy may receive this attempt, though mere pioneer work. At least this survey represents work done during nearly thirty years, for I commenced sketching the ruins of County Limerick with a camera in 1875; and despite crudeness and imperfection, this survey may put in the power of more favoured workers notes on the ruins and records, and, still more, on the forms of the names, which in abler hands may

bear better fruit, and assist students who have been too often working by guessing, not by the careful study of the oldest forms of the place-names.

A Preface is usually written after the completion of a book or Paper, so I do not attempt one here; nevertheless, some previous notes are absolutely necessary. These I will give with no further preliminary remarks, save that I have here followed, but with far greater fulness, the lines of my survey of the churches in County Clare, published in these pages in 1900.¹

NOTES ON THE TOPOGRAPHY.

I. DIVISIONS.—The County of Limerick is divided naturally into four by the Rivers Deel, Maigue, and Mulkeare, running northward to the Shannon. The eastern section is further subdivided by the Cammoge, the Saimer, or Morning Star, and the Loobagh, running westward to the Maigue. The county is bounded by the Shannon, to the north, by the mountain masses of Luachair to the west and south-west, by the Galtees and their offsets to the south-east, and Slieve Phelim to the north-east; between these, however, no great natural bounds mark its limits with the Counties of Tipperary and Cork. Of the natural bounds, the Mulkeare now, as in 1116, divides the Sees of Limerick and Killaloe; the greater rivers, save the Shannon itself, mark off none of the main divisions. The county is covered by the Bishopricks of Limerick and Emly, the latter lying partly within the eastern limits of Limerick. The baronies are Shanid, Glenquin, and Upper and Lower Connello, to the west; Kenry, Pubblebrian, and Clanwilliam, running eastward along the Shannon; Coshmagh and Coshlea along the southern, and Owneybeg, Coonagh, and Small County along the eastern border from north to south.

II. THE DIOCESE OF LIMERICK.—It seems strange that the Irish Church did not sooner adopt the wise expedient of appointing a bishop over a group of tribes, which succeeded so well in later days. St. Patrick and the early churchmen evidently felt the risk of trying to establish bishopricks among jealous and recently converted tribes, who would have resented the rule of a spiritual superior of another and, perhaps, hostile tribe-group. Even if St. Patrick did not consecrate 700 bishops,² the number was vast, and discipline was out of the question. Well might the better-ordered churches abroad look with dislike on a

¹ Proc. R.I.A., Ser. 3, vol. vi., p. 109.

² Ann. F. M., under 493.

system where a bishop was (like the Abbey cook or carpenter) a subordinate to an abbot, or even abbess (as at Kildare), and where bishops with no fixed residence wandered over the country performing episcopal functions everywhere and anywhere, and even intruded on the territorial bishopricks on the Continent. In the case of Limerick, the bishoprick was of foreign origin, and was, most probably, formed out of districts once within the episcopal influence of Iniscatha and Emly—influence, rather than authority, for the territorial bishoprick was long undeveloped. St. Senan, if we may receive the statement in the “Life of St. Ita,” was patron of Hy Chonail, or O’Connell, which, probably, reached nearly to the Maigue. It is, therefore, probable that to the chief deanery of that district, Rathkeale,¹ was allotted his sacred island, whose round tower and churches overlook the great estuary of the Shannon. This may have been done to avoid jealousy between Killaloe and Ardfert Sees, to which the bulk of the tribes which revered the coarb of St. Senan were assigned by the Synod of Rathbreasail. Doubtless, the long occupation of the island by the Norse, and its desecration when Brian expelled them, facilitated the breaking up of its bishoprick.

When the Norsemen of Limerick bowed at last before the “White Christ” in the ancient church of St. Munchin, national prejudice kept them aloof from the Irish Church. They looked to Canterbury for the ordination of their bishops.² Still the great importance of the “Danish” bishopricks forced their recognition by the Irish, the more easily that the former had not trenched on any pre-existing territorial boundaries of other bishopricks. When, for the first time, in 1116, the Synod of Rathbreasail fixed the limits of the first “landed bishopricks” in Ireland, Limerick got the fullest recognition.³ Ignoring Iniscatha, but respecting Killaloe and Imleach Iubhair, the synod laid down the bounds of Limerick; these extended from the Maolcearn River, westward to Ath coinn Iodain (Luddenbeg), to Lough Gur, Lathach mor,

¹ See Journal R.S.A.I. xxxiv., p. 126, which bears out the statements of Archbishop Ussher.

² See Ussher’s “*Veterum Epistolarum Hibernicarum Sylloge*” (1632) for correspondence between Limerick and Canterbury, p. 120.

³ “*Keating’s History*,” vol. ii. He copies from the original record in the Book of Clononagh. The Munster Sees established were Cashel, Lismore, or Waterford, Cork, Rathmoigh-deisgirt, Limerick, Killaloe, and Imleach Iobhair. At the Synod of Kells, in 1162, the Munster Bishopricks, beside Cashel, Emly, Limerick, Killaloe, Waterford, and Lismore, include Cork, Cloyne, Ross, Roscrea, Iniscatha, and Ardfert.

and Aine, westward; southward to Bealach Feabhrat, and Tullach (on the southern border); westward to Feil and Tairbeart; then (having surrounded the Ui Fidgeinte and Ui Chonaill) the line crossed the confluence of the Shannon and Fergus, and ran (by the Latoun River) to Cuinche, to Quin, in Clare, to the cross on Sliabh Uidhe an Riogh (Glennagross, above Limerick), and to the Dubh Abhainn, or Blackwater, in Clare. This covered the district of Tradraighe, or Tradree, the mensal land of the Dalcassian Princes, and Ui Aimrid, but, as their power lay in both Sees, this was not then felt as a danger.

In later times the clergy dared the ban, which the prelates in 1116 laid on those removing the landmarks, by the absorption by Killaloe of the parishes in Clare. In 1302, though the Norman power held Tradree, the limits of Limerick bishoprick had fallen back to the Six-milebridge River. After the fall of the de Clares at Dysert O'Dea, in 1318, Limerick could only make a disregarded claim to Kilfintinan, and Kilfnaghty, with the Cratloe Hills, near the city. It, however, held Killeely and Kilrush, and claimed Kilquane, and, perhaps, Kiltinanlea; the two first still belong to the Diocese and City of Limerick. Tullylease was assigned to Cork between 1201-1291, perhaps in 1206, when the borders of Limerick and Cork Counties were ascertained;¹ Kilmurrily and Scatterry (Iniscatha) were, however, retained rather precariously; and Killaloe either retained or recovered Kilnagariff and Stradbally, or Castleconnell, though it lost Donaghmore. Kilfintinan was recovered by Limerick, and continued to be held down at least to 1805.²

The diocese, accordingly, differed from the older Irish Sees by being constructed by chance on purely artificial lines.³ It straggled from its cathedral, which lay close to the north-east corner, southward for twenty miles, and westward for twice the distance.

This absurdity was increased by the union of the Sees of Ardfert

¹ See "King John's Letter" that year, C.S.P.I., vol. i. 289, as to whether Kilmallock lies in Limerick or Cork. The counties were only gradually established. John de Lexington was Sheriff of Munster, 1234; Hugh de Barry was Sheriff of Limerick in same year; Philip de Inteberg was Sheriff of Munster, 1244. Of other early Sheriffs of Limerick we find—John de Muchegros, 1260-1266; Oliver le Gras and Nic de Botevyleyn, 1274-1277; John Tangeley, 1276; Robert Bagot, 1280; Walter Uncle, 1281-1284; James Keating, 1287; Henry le Waleis, 1290.

² We find the Vicarage of Kilfintenan treated as under the Bishop of Limerick in a terrier of 1806, P.R.O.I., No. 39.

³ If we compare the Deaneries in the Bishopricks of Killaloe, Emly, and Limerick, we find the first two (typical Irish sees) name the deaneries after tribal districts (Corcovaskin, Omullod, Grene, &c.); the last, after castles and walled towns.

and Aghadoe, so that the inland cathedral ruled churches near the Lakes of Killarney, ninety miles away, and others among the spiked cliffs and towering mountains of Corcaguiney, on the extreme edge of the land. Every deanery, and almost every parish, is misconstrued on the same bad principle—rarely, indeed, is there a centre to any of them. The only discoverable rule appears to be that “the centre is at the circumference.”

The oldest tribal arrangements (where the *Ui Cathbar* and *Ui Corra* lay in the west, with the *Gebtini* of Askeaton, whose name, *Eas* (or *Inis*) *Geibhtine*, is their monument; the *Huamorian* clan of *Asail* lay round *Dromassell*, or *Tory Hill*, and the *Martini* round *Emly*) are too ancient to have affected the late mediæval divisions.

The old states—*Uaithne Cliach*, *Wetheney*, or *Owney*; *Aes Grein*, *Deisbeg*, and *Atharlach*, or *Aherloe*—were included in the county, but were parts of the See of *Emly*. I, therefore, prefer to take the artificial, but definite and fairly stable, division of the County Limerick as the base of this survey. I would (as in the case of the *Clare* churches)¹ have taken the baronies as sub-divisions, did not the parishes in many cases lie in two, sometimes even in three, baronies.² Accordingly, I am compelled to take the deaneries for sub-divisions; they form a natural grouping, and even still retain some trace of having been founded on tribal, and, therefore, at one time, rational grounds.

III. THE DEANERIES.—Those of Limerick Bishoprick are first dealt with. They are (1) *Limerick*, (2) *Adare*, (3) *Rathkeale*, (4) *Ardagh*, (5) *Ballingarry*, and (6) *Kilmallock*. We can then give the churches in (7) *Owney*, (8) *Greene*, and (9) *Aherloe* in *Emly* diocese. We will seek out their origin, if possible, as they come before us in the survey. The divisions, as we shall see, correspond approximately to the old tribe lands of *Tuath Luimneach*, *Ui Cairbre*, *Ui Chonaill*, *Ui Fidgeinte*, *Deisibeg*, *Uaithne*, *Grian*, and *Atharlach*. They should probably correspond more closely but for the Norse and Norman settlements, and the tremendous expatriation of the *Ui Fidgeinte*, the *Ui Cairbre Aobhdha*, and the *Eoghanachts*, by King *Donaldmore O'Brien*, in 1178,³ when he drove them beyond *Mangerton* and *Killarney*, and cleared the ground for far more dangerous opponents—the *de Burgos* and the *Geraldines*.

¹ *Proc. R.I.A.*, 1900, ser. 3., vol. vi., p. 100.

² *Templebreton* and other parishes even lie in two counties.

³ *Annals of Inisfallen*. Yet some writers express wonder that there is no record of the *Normans* driving out the *Hy Fidgeinte*.

IV. THE TRIBES.—As the church divisions in Ireland usually stereotype tribal topography, we may briefly examine the tribal arrangements in the Diocese of Limerick.¹ In the “Danish” district round the City of Limerick lay some small tribes, roughly classed as Tuath Luimneach; some were possibly of Norse origin. They were the Caoille, whose name is supposed to be embodied in Templenacally; the Ui Conaing, who gave their name to Carrigogunnell (Carraic ui gConaing), and Castrum Iconing, or Castleconnell; the Ui Mhaille, long commemorated at Crewally; the Ui Ciarmhaic (Kerbys, or Kerwicks); the Othotocor, near Crecora²; and some others. The Dal Cairbre, or Ui Cairbre Aobhdha, an important group of tribes, of whom the O’Donovans were chiefs, lay along the Maigue basin in Coshmagh and Kenry (Caenraighe), and covered the deanery of Adare. They at one time extended past Kilmallock³ to Ardpatrik,⁴ but were pressed northward. On their north-west border lay the Ui Beagha, or Uibh Rosa, at Beagh and Iveross. The great Ui Fidgeinte⁵ group lay to the south; a branch of the Fir Tamnaige gave its name to Mahoonagh, or Tawnagh. The strong tribes of Ui Chonaill Gabhra⁶ extended to the north of the western district, along the Deel and Slieve Luachra; O Connello retains their name. The Cercoithe long gave their name to Tuath Gortcoythe, including Rathcahill and the neighbouring lands in Glenquin.⁷ The name of the Corca muichet still appears on the map as Corcomohide. A number of other tribes (many belonging to the Ui Chonaill, the

¹ Much of our so-called “knowledge” of the origin and affinities of the tribes is doubtful; and as the matter does not greatly affect this paper, I avoid all these questions.

² Also given as O’Cholchur and Orthorlother (B. B. L., pp. 44, 96, 100 and 130). O’Huidhrin in 1420 assigned Crecora to O’Conaing.

³ Kilmallock is located in Ui Cairbre by the Calendar of Oenghus at 26 March. Hakmys was in O Carbry, Plea Roll 34 of xxv Ed. I.

⁴ Ardpatria, however, was “among the southern Deisi,” according to the “Tripartite Life.”

⁵ The Ui Fidgeinte chiefs claimed descent from Fiach Fidgeinte, grandson of Oilíoll Flanbeg, king of Munster, c. 300. The “Life of St. Molua,” of Clonfert, places them—the “Nepotes Fidgeinte”—“a medio planicie Mumonie usque ad medium montis Luachrae occidentis ad australem plagam fluminis Synna.” MSS., T.C.D., H. 3-17, says—“From Luachair Briun to Brurigh.”

⁶ The Ui Chonaill, or Ui Ghabhra, comprised the later families of Ui Coilean (Collins), Ui Flann Abhra (Flannery), and MacInneirghe, the powerful family of MacEnery, of Castletown. “Book of Rights,” p. 77. The latter chiefs were, however, descendants of the Dalcassian king, Mahon, elder brother of Brian.

⁷ See Ann. F. M. under 646.

Ui Fidgeinte, and other ancient confederacies) were found over the later Desmonds' lands. The O'Farrells (Ui Faircheallagh) were at Grange and Duntrileague,¹ and the Ui Cathalain lay in Uaithne Cliach; they were supplanted by the Ui Maolrian (Ryan and Mulryan), of the race of Cathaoir Mor.² Clanwilliam, or Aes tri muige, lay round Caherconlish. The Aradha once lay on the north bank of the Saimer, or "Morning Star," River.³ They were a Rudrician race, and were pressed back into the hills by the Eoghanachts. Some writers include the Ui Ciarmhaic among the Aradha; but we find them among the Eoghanachts at Aine, and at one time at Carrigogunnell.

Besides these tributary tribes, there were three others who were free from all subsidies to the kings of Cashel, save military service—the Ui Fidgeinte, the people of Aine Cliach, and the Dalgais, or Dalcassians. The last were, as all know, over-kings of the district, with the alternate right of succession to Cashel. The shadowy line of their great pre-Christian ancestry looms through the mist of our earliest legends. On the very verge of written history two of their most powerful kings, Lughad Meann and Connall Eachluath, won from the kings of Connaught the eastern part of Clare (c. 360, 377), and rendered other tribes, the Corca Baisnigh, and the Corca Modruad, their tributaries. The Dalcassians, however, are identified in later history, and by their greatest actions, with the alien land across the Shannon, to which they transferred their residence, and the name of "Thomond" or North Munster.⁴ Two tribes of their blood, the MacEnerys, descendants of King Mahon, and the O'Briens, of Coonagh, descendants of his younger brother, King Brian, however, still dwelt in Limerick; and towards the close of the fourteenth century the Clare O'Briens obtained Carrigogunnell Rock, which they strongly fortified, and gave their name to the surrounding district of Pubblebrian.

V. THE ENGLISH CANTREDS.—The early English divisions followed these tribal lines to a large extent. In 1290 the cantreds were Any, Bruree, Cromych (Croom); Esclon (Pubblebrian); Fontymchil, or

¹ Ballyfrauley (Ballyharylla, 1452), in Grange, manor of Mahoonagh, and Carrigareely Castle (O. S. 14), commemorated this tribe, which also gave its name to Ballyarrella, or Mount Ievers, in County Clare. Some believe it and the Ui Duibhross to be Martini Firbolgs.

² Book of Rights, p. 45, note.

³ Leabhar na hUídhre, p. 83.

⁴ They branched into the O'Briens, Macnamaras, MacMahons, O'Gradys, O'Deas, O'Quins, and other families.

Fontemel (the name suggestive of Fontemel, in Dorsetshire),¹ which lay between Corcomohide and Kilmallock ; it and Iniskefty (Gephthine) corresponded to Connello ;² Iolegar, or Ioregar (Uregare) ; O Carbri from Croom to Bruree ;³ O Conyll, over Shanid and Glenquin ; Othenach, Huheny, Hutheny, Wotheny, Wodeny, or Woney, was Uaithne, or Oneybeg, while the cantred of the Ostmen lay round Limerick.⁴ Half a century later Adare had replaced Croom, and Grene, Ioregar ; the cantreds of Ardagh and Browry also appear. "Crometh" once more superseded Adare in 1377, and Kilmehalloch, Fontymkill in 1381, in which latter year Adare and Croom are merged into the "Lordship" of the Earl of Kildare.

NOTES ON THE HISTORY.

VI. THE RISE OF CHRISTIANITY.—This vast and obscure subject we rather treat (in our present most defective knowledge) as detached notes on the early missionaries and church-founders. Most of our material is late and unreliable. If we accept the late tenth-century "Tripartite Life of St. Patrick,"⁵ as containing a base-work of authentic history, we can give Patrick's itinerary on his mission in the Limerick district, about 440. He visited the Hui Cuanach (Coonagh), the southern Deisi (Deisibeg), Clar, Cella rath, Grian, Cell Tedel (Kilteely), the Hui Fidgeinte, Carn Feredaig,⁶ Domnach mor Maige Aine, Tirglas Sangal (Singland), Luimneach, Finninne,⁷ and Knockpatrick (near

¹ Cal. Papal Letters, vol. ii., p. 621.

² O Conyll, *i.e.* Hy Chonaill, unbroken down to 1650 ; now broken into Upper and Lower Connello, Shanid, and Glenquin baronies.

³ Probably at one time it covered much of Kenry.

⁴ The villata in 1303-4 were, according to the Irish "Pipe Rolls," Adar, 5 marcs; Rathgel, Iniskefti, and Ardagh, 3 m. each; Cromech, 5 m.; Kilmehalloch, £20 (*sic*); Dermochii (Darragh), 1 m.; Natherach (Aherloe), 2s.; Any, 40s.; Grene, 20s.; Karkine (lys), 40s. Total, £39; while O'Brien, of Thomond, was called on to pay for 16 services, 32m.

⁵ A sermon book of the tenth century. I cite the fine edition of Dr. Whitley Stokes. It probably preserves earlier records; but we must always bear in mind that it was written as long after the events it discusses as we are from the reign of Henry IV., and that the obliterating Norse wars lay between.

⁶ For Cairn Feredaig, see Dindsenchas (*Revue Celtique*, 1894), No. 56, and Wars G. and G. in 967. It is now Seefin, in Coahlea. Feredach, of the race of Eber, was, it is said, slain there by Tighearnmais.

⁷ There was a Fenninis to the north of Cenn Febrat (near Ardpatrick). See the "Colloquy," in "Silva Gadelica," II., p. 123.

Foynes).¹ He did not cross Sliabh Luachra into Kerry, or the Shannon into Thomond. The ruling house of the Dalcassians, with Carthan its king, and his son, Eochy, received baptism, and produced eventually several saints and church-founders. One of the first who could call himself Dalcassian, Dioma,² son of Cass, founded, about 400, a church at Kildimo, in Kenry, which site bears his name. Mainchin, son of Dioma's brother, Sedna, was Bishop of Luimneach, probably the Tuath Luimneach, with influence in Clare and Connaught. He is reputed founder of the oldest church, St. Munchin's, on the island in the modern city. Late legend made his sister, Lelia, the founder of Killeely Church, nearly opposite the last, but across the Shannon. Rossa, another supposed sister, who founded Kilrush, is a still later myth, derived from the "Ross," or wooded point, which gave the little oratory its name. The later saints of Dalcassian blood (Brecan, Molua, and Flannan) belong to Clare. The great St. Ailbe, a contemporary (if not, as some say, a precursor) of St. Patrick, founded several churches at Emly (Imleach Iubhair) and in eastern Limerick; he died (it is said) between 537 and 541. Nesson, the deacon, famed for his love of truth, founded Mungret (Mungairit) in the early sixth century, and died about 560. He is mentioned in Cummin's epistle 628, which alone seems evidence for rejecting the too ingenious theory of a recent local antiquary that Nesson and Kieran were the centaurs, Nessus and Chiron.

The most famous of the abbey-founders, St. Ita,³ Mide, or Deirdre, of Cluain Credhail (named after her, Killite, or Killeedy), died about 570. Her "Life" seems fairly historic, and shows her to be a woman of commanding intellect and wisdom, and the most eager virtue and piety; a wise adviser and organiser, sought from afar—an earlier St. Teresa. She is patroness of O Connello; her churches, Killeedy and Kilmeedy, remain.

Probably of the sixth century are Inghcan Baoith, the patroness of Kilnaboy,⁴ near Inchiquin, in Clare, and the reputed founder of Strand

¹ Vit. Trip., pp. 199, 209. It lay westward from Donaghmore, commanded a view of the "territories and islands" of Thomond, and of "that green island in the mouth of the sea," i.e., Iniscatha. These conditions are only fulfilled by Knockpatrick, near Foynes.

² Calendar of Oenghus (ed. Stokes), Jan. 2.

³ Calendar of Oenghus, Jan. 15. Canon O'Hanlon, "Lives," vol. i., p. 200. Colgan, Vita S. Itae, Jan. xv. Tighernach, "in quo ceciderunt Corcoiche Mumhan per orationes Ite Cluain Credhail."

⁴ See B.S.A.I. Journal, xxiv., pp. 26-29.

Church; Toman,¹ of Mungret, and Kiltoman, near Shanid Castle; Cuirbhinn,² who taught among the Ui Fidgeinte; Lachtan, of Bealach Febrat and Murdebhair, "a synod's diadem" at Disert and Morgans churches. The very obscure Mochealloc, Dachealloc, or Celloc, reputed founder of Kilmallock,⁴ may be provisionally placed in the sixth century, but will be noted later on. Aedan, Bishop of Ferns, visited the Ui Chonail Gabhra, and founded Cluain Chlaidech (probably Mahoonagh), and possibly also Shanavoha⁵ and Clonca, where he is the traditional patron; he died about 625. Oenghus the Culdee, patron and, perhaps, founder of Disert Oengussa, near Croom, died in 812.

VII. PATRONS AND CHURCH NAMES.—About 100 out of nearly 400 churches bear the prefix of "Kil," sixteen of "Temple," three of "Aglish," and one of "Donagh." In the Ardagh and Bruree districts all the "Temples" are attributed to the Templars; and strange tales are told at Newcastle and Rosstemple of the excesses and destruction of that hapless order of the church militant. The well-known phenomenon of Irish ecclesiology that the earlier churches are usually called after their founders, rather than after the Deity, the Virgin, foreign saints, or angels, gives no little value to churches with personal names. We compile a list of these names (as a supplement to the founders and patrons), from the wells, "kills," and "temples" of Limerick: Becan; Beinight; Bride, or Brigid; Bruaineach, or Broney, of Athlacca; Caoide, of Kilkeedy; Cathlan, of Cullan; Kieran, of Cloncagh and Kilfinnane; Cohan; Colman; Colman mac Duach; Colum, or Dacolum; Comgan; Cornan; Dioma; Eany; Eline; Finche, of Kilfinny; Fintan; Gobban, or MacGoban; Ina; Ite, Mide, or Deirdre; Lasragh; Lelia; Lonan; Mainchin; Mochealloc, Dachelloc, or Celloc; Mochuda; Molua, of Ardagh and Emlygrennan; Murdebhair, of Morgans; Onchu, and Ultan. Local legends and the

¹ Calendar of Oenghus, July 25.

² *Ibid.*, p. cxx, July 20.

³ *Ibid.*, pp. clxii, clxviii, Nov 3.

⁴ Henry O'Brien "Mysteries," &c., p. 201, identifies this saint with Moloch, and stated that Kilmallock, or Magolicon, meant "Moloch Icon," from a famous image of the "horrid king." Of course later visionaries have adopted this theory, and its appearance in recent literature calls for notice. Colgan identifies the saint with Mochelloc, of Catbair na Conchaigh, *circa* 590.

⁵ The name is interesting in view of his foundation of a similar name—Sean Boithe, in County Wexford.

1410 list, copied by Father S. White, give, in addition, Banban, of Monagay; Brendan; Credan; Cormac; Deriola, of Corcomohide; Ethna; Gobnet; Aedan, or Maidoc; Molagga, of Killinure; Molon, of Tullabracky; Nessen; Patrick; and Senan, who was patron of O Connello, of Camus Chapel, and of the wells of Killonaghan and Cahernarry.

Many other churches derive their names from natural features, as: Adare, Athlacca, Ballinaclogh, Creora, Clonkeen, Darragh, Dromkeen, Gortadroma, Nantinan, Rossard, Shanagolden (Sean-gualann), Tomdeely, or Dromdeely, and Tullybracky.

Others are named from secular divisions and persons, as Athenasy (Deisi), Ballylanders (Loundres), Corcomohide, Fanningstown, Lawrencetown, Siwardstown (now Howardstown), and Tankardstown.

Sometimes the parish took its name from an ancient fortress, as Askeaton (Gephthine),¹ Bruree, Caheravalley, Caherconlish, Caherconey, Cahernarry, Dunmoylan, Duntrileague, Knocklong, Lismakeery, Rathcahill, Rathkeale (Rath Guala); sometimes from a Norman fortress, like Newcastle, Castle Roberts, Castle Robert Doondonill, and Castle Robert Gore: the two latter commemorate two Norman landowners of the early thirteenth century.

The following saints have the patronage of several churches or wells:—Brigid had a church in Limerick City, with the four, named Kilbreedy; wells at Ardcanny, Ballingaddy, Ballinlough, Fantstown, Feohanagh, and Knocknagall.² The Colmans were patrons of five churches; one of these, judging from the patron-day, must be assigned to St. Colman mac Duach. To a Colman, also, were dedicated Loghil and Cloncoraha, or Colman's Well. Molua, of Clonfert, had churches at Ardagh and Emylgrenan; while St. Patrick was patron of churches and wells at Singland, Donaghmore, Ardpatrik, and Knockpatrick, besides wells at Cloncagh, Duntrileague, Mungret, and Patrickswell.

VIII. THE NORSEMEN.—We need at present only consider the hostile action of the foreigners against the churches. This has probably been much exaggerated. It was the hunger for gold rather than mere fanaticism that led to the plunder of the monasteries. The *Annals*, written by monks, gave prominence to these raids, which

¹ Geibhtine and Brugh Righ fortresses reserved to the King of Munster, *ante* 902. "Book of Rights" (ed. O'Donovan), p. 89, 87.

² Perhaps, also, Kilcurly, near Adare, called also Kilbride in the *Fiant*s.

were probably mere episodes in a system of general plunder. No better evidence of toleration can be afforded than the existence of Mungret, an important college, with 1500 inhabitants, near the chief Norse settlement of the west, Limerick.¹ It was not destroyed after 843, and was in high efficiency sixty years later. We read of no Christian church in Limerick City till the later eleventh century. The Eddic religion borrowed many hints from Christianity; probably Kingsley is not far astray when he makes the Ostdane King of Waterford swear to Hereward, "By the White Christ, and by Sleipnir, Odin's eight-legged horse." Torgeis and his wife Odda seized Armagh and Clonmacnoise, rather for policy than anti-Christian motives. In the fierce wars of the Norse with the Irish princes doubtless great destruction fell on the religious centres; the clergy suffered with the laity, but any deliberate persecution of them for their religion has yet to be proved.²

The first blow fell on Mungret Abbey, which was plundered in 802. Then in 834 a great fleet sailed up the "Luimneach," and armed bands wasted Corcovaskin and Tradree, in Clare, and burned and plundered Mungret. Drunk with success, they raided the western districts to Senati (Shanid), and were met by the Ui Chonaill, reinforced, none too soon, by the Ui Fidgeinti, who defeated the foreigners with such loss that "the slaughter could not be counted." Again, in 840 and 843, Mungret was plundered; and two years later a "sea-cast flood" of foreigners swept over the border, and plundered St. Ita's Convent, at Killeedy and Cuil Embni; on they marched till a second swarm, which had landed at Limerick, joined them, and Emly and the Martini, the last Firbolg state, fell before them. In this raid Forannan, the coarb of Armagh, who had fled for safety to the remote Cluain Comairdi, or Colmanswell, was captured, taken to Limerick, and the shrine of St. Patrick broken; probably only the golden mountings were torn off, for, after the death of Turgeis, the coarb returned unhurt to Armagh, and repaired the shrine—further proof of the moderation of his captors. Numbers of churches, however, perished, "much indeed of evil . . . did they (the Norse) receive, and much was received by

¹ This has been noticed by FitzGerald and MacGregor in their "History of Limerick," a book of deeper thought and wider views for its age than many a recent county history.

² In none of the districts infested by the Norse are there fewer traces of their power than in Ireland. No undoubted runic inscriptions on stone, and only one on metal; no undoubted remains of churches, and only one castle; no undoubted "Danish forts;" few undoubted burial-places.

them (the Irish) in those years which is not recorded at all."¹ In 866 eastern Limerick and the Deisi were ravaged, and Emly burned; then the "fair" and "dark foreigners" quarrelled, and "the land had rest forty years."

In 916 wars again commenced; Hacon, Tamar, and Otter raided the Ui Chonaill and Uaithne; the duns were attacked, the churches ravaged, and the shrines and books "broken and torn." The Danes were checked in 943 by Ceallachan, King of Cashel, and Kennedy, King of the Dalcassians, of Thomond, in the fierce battle of Singland (Saingeal), at Limerick. A generation later, Kennedy's sons, Mahon and Brian, weakened the foreigners in the battle of Solloghod (Sulchoit), 964, and took Limerick. The punishment of the Danes' allies, the Ui Enna and Ui Fidgeinte, who hated the Dalcassians, and "the red slaughter of the foreigners" at Shanagolden, took place in 968.² Though the victory of Clontarf was little better than a drawn battle, and left the Dalcassians sorely crippled, the Danish towns, after 1014, never became centres of tyranny, and the logic of fortune turned the Danes in the cities towards the Christian faith.³ The next Teutonic invaders found an Irish king and a Danish bishop ruling the old Norse town; and round its walls, in the "Cantred of the Ostmen," a Danish population of some importance. Long after the O'Briens had fallen back behind the Shannon, long after even the close of the thirteenth century, Norse names—Harold, Sweyn, Siward,⁴ Hereward, Sitric, Thursteyn, Thordelb,⁵ and others—some even subsisting to our time, remind us that the northern blood still flowed in the veins of the citizens of Limerick.

¹ Wars of the Gaedhil with the Gaill, p. 15.

² For all this section, besides the various Annals, see the "Wars of the Gaedhil with the Gaill" (ed. Todd), pp. 5, 9, 15, 19, 25, 39, 49, 61, 77.

³ The "Norse" rulers of Limerick were Omphile; Barith (Chron. Scot.); Ivar, 853; Sitric, slain 895; Colla, son of Barith, 908; Tomar mac Elgi, "King of Denmark and East Anglia," ruled Limerick for eight years, 931; Colla, grandson of Ivar (leader), and Amlav, 940; Ivar, grandson of Ivar, 939; Harold, grandson of Ivar, 940; Ivar, 942; Olfin, then Harold, 968; Magnus, or Muris (governor), fell at Sulchoit. In 1104 Murcheartach O'Brien, King of Ireland, built a palace in Limerick, 1171; Cormac MacCarthy burned the market-place, and half the fort of Limerick. Much may be learned from "the Norsemen of Limerick," by Rev. T. Lee, R.S.A.I., 1889, xix., p. 227, Worsaae, &c.

⁴ Syward was prepositus of Limerick in 1201 (M. f. H.). We find two mayors, Siward Minutor and Siward de Feredona, in 1214-1215.

⁵ As in "Mikells Tworedell," in Mungret (D.S.A.), and the "Bog of Tworedell" (ib., 11).

IX. THE NORMAN RECORDS.—The pre-Norman sources for the history of the Limerick churches are scanty and often doubtful; much of the "Annals," the "Wars of the Gaedhil with the Gaill," and the "Lives of the Saints," are either brief entries, or, in the latter stories, statements of legends, many doubtless of late and valueless origin. When, however, we reach the English period, we get a mass of very full and valuable information from the Rolls, State Papers, and the Register of the Deans of Limerick, called the "Black Book." The usual statement is that this was copied after 1400 by Bishop Cornelius O'Dea; palaeographers rather incline to put the earlier handwriting at least twenty years sooner. It commences in the time of Bishop Briccius (1192–1194) with several deeds (two of the greatest importance) of the succeeding prelates. The main collection of deeds belongs to the times of the Bishops Hubert, Robert, and Geoffrey (1223–1307). After these we find a few isolated deeds of Bishops Robert and Eustace (1307–1336); none of their immediate successors, save one of the bishops, Stephen, are represented. Then we find at the end several important surveys and documents of Bishop Cornelius (1400–1420), and a few deeds of the early sixteenth and early seventeenth centuries, ending with Bishop Bernard, to 1619. The last Protestant bishop who held the book was Dr. George Webb; he died in Limerick Castle, which was besieged by the Confederates, into whose hands the Black Book passed¹ at the capitulation, 1642. It was eventually lent by the Roman Catholic Bishop of Limerick, Dr. Ryan, to Dr. Renehan, for the latter's *History of the Bishops*, from whom it passed to the safe keeping of the Library of Maynooth. It is a well-preserved volume of parchment, the pages 10 inches by 7 inches, with usually twenty-six lines in each page in the earlier, and thirty-three in the later, portion.²

The documents from O'Dea down are much defaced; fortunately Adams' copies, now in possession of the Protestant bishops, seem very correct, so far as I can check them with Dr. Reeves' copy of the portions legible in the original.

Several important documents relating to Kilmallock are undatable. They give minute details of the streets and grounds in the town. If we consider certain persons as identified with others in other deeds in the same collection, the Kilmallock deeds may date about 1280.

¹ See R.S.A.I., xxxiv., pp. 176, 186. It is interesting to note that the Confederates allowed the inhabitants of Askeaton Castle to take half their books. R.S.A.I., xxxiii., p. 168.

² See Third Report of Hist. MSS. Commission, p. 434.

X. THE INQUISITIONS AND VISITATIONS.—These are exceptionally satisfactory and numerous. We have William de Burgo's and Miler Fitz Henry's deeds, 1200–1201; Bishop Donat's Ordinance, 1204; the Papal Taxations, 1291 and 1302; O'Dea's Visitations and Taxation, 1410 and 1418–22; Peyton's Survey, 1586; the Valor Beneficiorum, 1591; the Royal Visitations of 1615 (two) and 1633, and the all-important Down Survey and Civil Survey of 1655–57. These are fully utilised in this present survey, but the first is so important that it demands separate notice. It was taken in 1201 by the Justiciary Meyler fitz Henry, with a jury of twelve Englishmen, twelve Ostmen, and twelve Irishmen, and is based on a slightly earlier list made by the Governor, William de Burgo.¹

It gives the churches and lands of the See as—Imlechdromggi (Emlygrenan), Kylmechelloc (Kilmallock), Kyllnacomarba, Ardmacwelan,² Brugrig nursi (Bruree), Ardpattric, Kellcomgan³ (Hakmys), Calathawa,⁴ Cluencomarda (Colmanswell), Tellachless (Tullylease, in County Cork),⁵ Kelledochaliathin (Killagholeghan), Cluencrema (Cloncrew), Drumcollechaellir (Dromcolliher), Cluendlaidmech⁶ (Mahoonagh), Cluonelti (Clonelti), Cluonkai (Cloncagh), Kellite (Killeedy), Ardachad (Ardagh), Kellmurille (Kilmurrily, in County Kerry), Kellergussa (Kilfergus), Magmor⁷, Belachdroma, Lemchaell (Loghill), Ardnuwir (Ardineer townland),⁸ Disuurt, Murdewar (Disert and Morgans), Sengola (Shanagolden), Tonndaili (Tomdeely), Inriasc' (Iniskefty, Askeaton), Inyscathidch (Iniscatha, or Scattery), Kellscanill

¹ It is published in facsimile by Sir John Gilbert in "Facsimiles of the National MSS. of Ireland," vol. iii., section L.

² Ardmacaelan Church, 1418. Ardmuillain, or Ardewelain, 1410; noted by Father White as "forgotten," in 1650; Ardevolan, in 1615.

³ Kylecomwohan, claimed by Margaret de Brestoll, 1298. Plea Roll 46 of xvii. Ed. I., m. 28.

⁴ Perhaps Callahow, in Cloncrew.

⁵ We must, however, remember there was a "Towlowglass" at Kyllfarisa or Kilfergus, in Toghe Glancorbrye, in 1586, Peyton, p. 105.

⁶ The Cluain Claidech of the "Life of St. Aedan." This Inquisition marks it as Mahoonagh, not as Cloncagh, which appears here as Cluonkai. Perhaps Cluain Claidech survived in Cluayn Cliste (Nos. 50, 61, 83); in 1667 and 1697 it does not, however, appear in Peyton's Survey. Clonekervane and Clonefernagh adjoin Mahoonagh, 1586.

⁷ Peyton, p. 174, gives Maymoore in Temple Clee or Athea, 1586. Athea and Moymore were granted to R. Collum, 1595; perhaps the last is the Magmor of 1201.

⁸ Ardnywyr, next Leamkaill, or Loghill, in de Rupefort's rental, 1336. See also grant of the Bishop of Limerick (1216–23), Ecc de Ardumir (B. B. L., p. 114).

(Kilscannell), Cluonech (Clonagh), Rathnascir (Rathnaser), Kellmac-lugna (Kilmacluana or Cappagh)¹, Cluonsiebra (Clonshire), Droche-tarsna (Drehid tarsna), Kellnafidnaigi (Kilfinny), Disirtengusa (Dyser, near Croom), Kyllinatan (Killeenoghty), Tullachbraci (Tullabracky), Kellecharli (Kilcurley, near Adare), Kelldima (Kildimo), Kellalathna (Killulta),² Kellchurnam (Kilcornan), Ardcatni (Ardcanny), Kelldacholum (Collam), Kellmacgoban (Kilgobbin), Kellnachallichi (Kelnacallye, in Elmpark), Atnid (Anhid?), Mungaret (Mungret), Imbeolchimir; in Eschluona,³ are Balldorchun, Balihhibebon, Rathen, Raencuam, and Balyhichnim; Dounnachmor (Donaghmore), Sengel (Singland), Inchicomam, Kellchuan (Kilquane, County Clare), Kelliedun (Killeely?), Kellross (Kilrush). Various churches in Limerick—St. Manchuchini (Munchins), with Karragiedacham and Keldairi; St. Brigid, St. John, St. Peter, St. Martin, St. Michael, St. Mar, Rotunda, St. Nicholas; Claronaedugain, Munimdartha, Cluonidublach, Mun-tirichroidir, Inergine, Imailidinn, (Crewally, or Ballyclogh), Baluchtham, Formail-iart, Magdublacna, Balimurchada, Balichorchorcam, Cathirdubdulic (Caheravally), Kellonchon (Killonaghon), Balimulchadtha, the fishery of Coradgwr (Coragower), and the mill near the city, fish, tythes, &c. Though several important churches, such as Adare, Rathkeale, Kilpeacon, Kilfinnane, Croom, &c., do not appear in this list, it shows that the leading parishes were already recognised.

XI. THE PAPAL TAXATIONS (1291–1302).—These being already published, though with great inaccuracies, may be consulted in the Calendar of Documents relating to Ireland; but the endless list of corrigenda is more important than the “text.” We only notice the 1302 list here, because it preserves a record of a raid over which the annalists and historians keep (so far as I know) absolute silence.⁴

This destruction fell heavily on the churches of south-west Limerick, and may be traced by the grim entries “wasted by the war” after

¹ See, e.g., De Rupefort's Rental, 1336 (B. B. L., pp. 138–140).

² Killenalotar or Kilulta.

³ The northern part of Kilkeedy parish.

⁴ How imperfect and partial are our Annals is evident when we note that the driving out of the great tribes of south-western Limerick, in 1178, only appears in the “Annals of Innisfallen.” This “war” in western Limerick, *ante* 1302, only appears in Rolls and the Papal Taxation; and Turlough O'Brien's great raid *vis* Caherconlish and Grene, all over eastern Limerick and northern Tipperary, in 1285–6, is only found in the “Wars of Turlough” and the Rolls.

certain church names in the Taxation of 1302. It extended from Abbeyfeale to Kilfinny, along the south of O Connello, and was apparently stopped by the castles of Shanid, Doondonnell, Askeaton, Croom, and Adare,¹ but not by Newcastle. The destroyed churches were—Corcomohide, Mahoonagh, Moyalthi, Cloncagh, Ballyhahill, Dromcolliher, Cloncrew, Clonelty, Newgrange, Newcastle, Rathcahill, Killagholeghan, Killeedy, Killilagh, Feel, the Chapel of Montemale-dictionis, and the churches of Clonshire, Kilmaclou, and Kilfinny. A lesser raid along the western border destroyed the churches of Kil-murryly, Loughill, and Kilfergus.² It is remarkable that, while the fierce wars of the de Clares and O'Briens during forty years seem to have rarely injured, and only twice destroyed, churches,³ the annalists and historians pass over in complete silence that fierce war which wasted, with fire and sword, a tract of country twenty-six miles long and sixteen to eighteen miles wide; that spared the churches as little as the English manors, and "burned with fire the houses of God in the land" to the number of two and twenty.

XII. COLLAPSE OF THE ENGLISH POWER.—It has become a commonplace that the collapse of the English power in western Ireland dated from the Bruces' invasion, and the weak reign of Edward II. No doubt these events helped to hasten its end; but the germs of its mortal illness are discoverable even in the strong reign of Edward I. At that time the system of government was (in the district we are considering) of the greatest complication. We find "chapters," or groups of parishes, with elaborate local government, looking after the roads and bridges, after outlaws and thieves. Then came coroners' districts, and baronial divisions, and free towns, like Limerick and Kilmallock, and courts-Christian, held anywhere as the church authorities saw fit; while bailiffs, governors, the escheator, the coroner, the king's judges, and higher officers of the Crown intervened on every occasion. No one could be detected using a quern, or burying a body that the coroner had not seen; a wooden bridge could not show signs of collapse; the foxes at Kilcosgrave could not devour an unusual number of rabbits in a warren; a man could not be drowned by falling into a river off a restless horse, or get killed by a mill-wheel; a criminal could not escape from a church—but the authorities were on the alert,

¹ Adare vill is, however, returned as "wasted by the war" in an Inquisition of 1329.

² C.S.P.I., 1302, p. 289.

³ "Wars of Torlough," *Annals of Innisfallen*.

and making reports and inquisitions, prosecuting innocent persons, fining parishes, and confiscating the horse, or mill-wheel, to the Crown. Beside this, any lady of property, who was (as often happened) untimely bereaved of her husband by the wars, was rarely left long in her widowhood, and every extra marriage raised dower questions of fearful complexity. The result of all this paternal government was an unending swarm of little stinging lawsuits, sucking the blood, and breaking the peace of the community. While the English settlers were incessantly worried by English law and government, there also lay around them fierce Irish tribes in the mountains and forests, waiting opportunity for a raid; while underneath the settlers lay the oppressed Irish serfs, always strong and dangerous the moment the strong hand relaxed.¹ Add to all these social ulcers the manors, "worked" by and for the government during minorities, the hostility of the higher native clergy to the English,² and the burdens of debt to Italian banking firms,³ and we have all the material for the collapse before any open break appeared.

In northern Munster the de Clares figure, especially, as the "evil angels" of this time; their large manors involved them in endless lawsuits, and made the de Burgos and other strong nobles seek to aid the Irish against the unloved house of de Clare. Thomas de Clare's wars with the O'Briens brought the formidable King Torlough with all his tribes down upon eastern Limerick and northern Tipperary, about 1285. Caherconlish Grene, Latteragh, and other towns and castles were reduced to blackened ruins by fire and sword. Gilbert de Clare, owing to his long minority and his early death, took no part in the struggle; but his brother, Richard, stirred up another O'Brien war which, after eight years, resulted in the deaths of himself, his son, and his best knights, the destruction of the English colony in Thomond,

¹ I found these deductions on the Irish Pipe Rolls and Plea Rolls (which tell the story of over-government with great clearness), on the Inquisitions, and on certain deeds. The "Wars of Torlough" also shows the ill-feeling of various English barons towards each other. The C.S.P.I. give most of the other points in this section.

² The Abbot of Magio, *e.g.*, in Pleas of Parliament, Easter, xxxv Ed. I.; Alienation of the Abbey Goods, chiefly to maintain the hatred of the English tongue (*maxime in odium lingue anglicane ad manutenendum*), lest English monks should remain. The Abbot of Wetheney harboured Irish enemies and rebels of the king, 1290 (C.S.P.I., vol. iii. (802), &c.

³ *E.g.*: I find in the Plea Rolls, 1287, Eliseus de Lucca; in the C.S.P.I., 1286-92, the Ricardi; the Rapundi, the Advocata, the Huberti, and the Cosi of Florence; the Clarentes of Pistoia; the Lucca merchants, Amanati and Chimberdi.

and the weakening of the few Irish allies of the English. Along with this disastrous war came the Scotch invasion. As the Bruces approached Limerick, all the Irish in Desmond rose "in hostility to the king and his faithful subjects." The O'Donegans (tenants of Maurice fitz Thomas) at Rathkeale, rose and destroyed Newcastle, in Oconyll, so that Fitz Thomas had to bring against them a force sorely needed elsewhere.¹ The great muster against the Scotch, meanwhile, lay at Ludden, without striking a blow, while the Scotch insulted the City of Limerick, and lay almost unmolested at Castleconnell, 1315. Then the invasion ebbed, and Edward Bruce fell at Dundalk, unlamented by the Irish he came to assist. These events seem to have told even against the writers of deeds and registers. The deeds in the Black Book, and the entries of Limerick lawsuits in the Plea Rolls, became very few, and the records dwindle almost to nothing after the close of the century. The power of the Earls of Desmond next rose to that height from which all the forces of the Crown alone deposed it, after several years' war, and the desolation of a province in 1586. Other traces of government, save in the fortified towns, are almost impossible to discover.

Limerick received a heavy blow in the middle of the fourteenth century.² In 1369 Garrett, Earl of Desmond, endeavoured to support O'Brien, of Thomond, who had been deposed by his nephew, Brian.³ Before the English army could be got together in proper force, the formidable host of Thomond was at Monasternenagh Abbey. Desmond attacked, received a crushing defeat, and was dragged out of sanctuary. There was complete demoralisation among the English; Limerick opened its gates to the victors, and was partly burned: Sioda Macnamara was made Governor, and his clan plundered even the books and plate of the cathedral. It was, however, only a momentary success: the citizens rose and slew Sioda, while Sir William de Wyndesore brought up troops, and made the Macnamaras restore the "books, ornaments, and chalices" of St. Mary's.⁴

¹ Plea Rolls, 124 of xi Ed. II., m. 44.

² In 1358 Catherkenlyshe had a grant of murage for twenty years, "as lying on the marches, with the Irish rebels on every side, and liable to their incursions. Charter of Ed. III., Nov. 9th, 1358.

³ Known to history as "Brian of the battle of (Monaster) an) Aenagh," from his victory over Desmond.

⁴ Annals F.M., 1370. Fitzgerald and Macgregor's "History of Limerick," vol. ii., p. 84; Journal R.S.A.I., vol. xix. (1889), p. 234. Also the facsimile of an entry relating to this war in "National MSS. of Ireland," vol. iii., No. LIV.

The reign of Edward III., however, was destined to end in disaster for the English colony in Ireland; the Macnamaras inflicted a disastrous defeat on Clanrickard. Even in the records of the Chancery Rolls of 1377¹ this war has left its mark. The "dry bones live"; we seem to see the stir of the government, the march of the nobles and knights, the foot-soldiers, hobilers, and archers, the great droves of oxen, heifers, horses and carriages converging on Limerick. Messengers fly with letters to the leading men, and supplies are "commandeered" on every side. The mayor and citizens of Limerick take heart, and work energetically; rumours fly about what "O'Brien and Macomarth" and the other fierce chiefs are doing to the north of the river. Everything foretells a great war—perhaps the reduction of Thomond, when—nothing further is done, and the army disbands. It was the last flicker of the fire of the Plantagenets; henceforth the main "victories" will be nominal submissions of Irish chiefs to the Crown, with presents of falcons and hounds,² and peace obtained by the Limerick citizens only by paying rent and blackmail to the neighbouring chiefs. The documents relating even to church matters dwindle to nothing, till the energetic reign of Henry VIII. and his vast changes in Church and State flood us once more with records, for nearly all the fifteenth and a third of the sixteenth century remain nearly blank in our rolls and cartularies.

This is the more remarkable that in Limerick (as in Clare,³ and elsewhere in western Ireland) numerous churches and monasteries were extensively re-edified in the fifteenth century, and peel towers, with identical architectural features to those found in the churches, remain everywhere. Save in the cases of St. Mary's Cathedral and the Franciscan Convent at Adare, the builders and dates of these works go unrecorded by annalist or notary.

After the dissolution the churches, with very few exceptions, fell to ruin, and no attempt seems to have been made till the days of Bishop Bernard to reconstitute the churches and cathedral of the war-wasted City and County of Limerick, half depopulated after the frightful Desmond wars.

¹ Calendar of Chancery Rolls, &c., of Ireland.

² *E.g.* Bryen O'Bryan Princeps Thotomon de canibz et falconibz Mem. Scac Term S. Trin., xviii Ric. II.

³ See Proc. R.I.A., Ser. iii., vol. vi., pp. 116–117. It is strange to find the windows, doors, and other features in the greater castles (*e.g.*, Adare and Askeaton) practically identical with those in the monasteries, just as in the similar features in the peel towers and lesser churches.

FINAL NOTES.

XIII. THE PREBENDS.—Before giving the survey of the churches, it may be helpful to collect into almost dry lists notes on the prebends, monasteries, and impropriations, and lists of the bishops. In 1204 Bishop Donat (B.B.L., p. 108) appointed that the cathedral, with the tythes of Cotheann, profits on wills, oblations, &c., and the churches of Kilmurry, St. Martin, in Limerick, Douenathmor, and Killiadeh, should support the bishop. The dean was to hold the Church of St. John, below the city, Kildacolu (Collam), Kildimo, and Ardach. The chanter was given Sengol (Shanagolden), Ardinir, and Rathnaser as prebend. The treasurer was given Sengol (Singland), Rathgerallan,¹ Drommohiba, and certain fisheries. To the four canons and prebends were respectively given—Mungaret, Kathirdufduli, and Killonechon, St. Manchinus, and the benefices of Ballimurchada, Ardchatin (Ardcanny), and certain lands. Portions from the common stock were granted to three other canons.

Bishop Hubert granted, in about 1250, to the Dean, Thomas de Wodeford, and his successors the churches of Mungaret, Maycro, Carnarthy, and Rathsyward, and the chapel of Lysmuk (B.B.L., p. 73). This grant was augmented by a grant of the churches of Browry and Ballysyward by his successor, Bishop Robert in 1253 (*Ib.*).

In 1291 the chancellor had the vicarages of Brurry, Mungaria, Kylmaclou (Cappagh), Kylfychny, Sengel, and the prebendal churches of Clonkeuer, Kylscanyl, and Clonach. The treasurer held Imlath-dreyney; and the archdeacon, Kyldyme, Tulachbrek, Croch, Effyng, and Kylyd. The prebends were Kylmonyn, Ardacny, Ballycathan, Dovenachmor, and Kyleyl.² Effin was made a prebendal church in 1287.³

In 1418 the *Taxatio Procuracionum* shows that the dean held the rectory of Mongaret, Carnargy, Balysyward, Browrye, Kylmacluana, Rathsyward (Rathurd), and the vicarage of St. Nicholas. The archdeacon had St. Michael's vicarage, Cluancreama, Kyldyme, Kyldacolum, and Ardach. The treasurer held Imlachdrynan, Sengol,

¹ Rathgrallayn, between Limerick and Crewmally, in the rental of 1336. Rathgrellane, near Rathurd, in D.S.A. (map 10), 1657. Rathareylen is named as the property of the Limerick Corporation in the Inquisition of 18th March, xii James I.

² C.S.P.I., vol. v., pp. 270-271.

³ B.B.L., pp. 111-113.

and Cluananarny, or Kilquane; the precentor, Catherbathelaich, Crewamalla, Kynafynygy, Nantenan, Rathneser, Drumdele, Dissert-marrgeor (Morgans), Senguala, and Leamkaill; while the chancellor had Cluyincheur, Rathgel, Kylscannill rectory, and Cloaineach. Ballymolruain, and Ardmataelane were mensal to the bishop; and the prebends were St. Munchin, Kilbekayn, Domnachmor, Kyllonchon (?), Dissert-Engussa, Athnyd, Balycathan, Ardcahny, Croch, Ardacha, Killeedy, and Rathgel (?). Several of the churches formerly reserved to the dignitaries (such as Kilmurry, by Athassell, St. John's, by the Holycross, and Fedemer, by Cathir) were held by the regular clergy.¹

In 1633 the prebends were St. Munchin, Donaghmore, Ballycabane, Kilpeacon, Tullabrachy, Killeedy, Disert, Ardcanney, Croagh, Athnett (mensal), Effin, and St. Patrick's, at Singland.² To the dean was given St. Mary (? Kilmurry), St. Nicholas, Cappagh, Cahernarry, Bruree, and Mungret; to the precentor, Kilfinny, Loghill, Nantenan, Shanagolden, Knocknegall, Dromdely, and Morgans; to the chancellor, Rathkeale, Kilscannell, Clonagh, Clonshire, and Dundonnell; to the treasurer, St. Patrick, at Singland, Caheravally, Emlygrennan, Kilquane Chapelry, St. Michael, Ardagh, and Kildimo; while the economy fund included Kilmallock union.³

A long list of parish churches were at that time inappropriate—Kilkeedy, Kilmurry, St. John's, Fedamore, Kilfentenan (in Clare), Kilfinan, Dermacow, Ballytankard, Broffe, Urgare, Glanograh, Adare, Ballyngary, Le Granshagh (New Grange), Killaughliathan, Kilbroderan, Kilcolman, Askeaton, Dunmoylan, Castle-Robert-Goer, and Aglishemonagh; most of these had passed into lay hands, by having first been obtained by the monasteries, then seized by the Crown, and then granted away to lay proprietors.

¹ Richard II., 1389, directed the dean and chapter to make Andesche a prebend for the life of the incumbent (Pat. R.).

² Rural deaneries were St. Mary's, St. John's, Mungret, Kildimo, Cahernarry, Askeaton, Kilkeedy, Killaliathan, Chapel; Russell, Ballygarry, Killfinnane, Nantinan, Abbeyfeal, and Rathkeale (*Liber Munerum Publicorum*, part iv., p. 206).

³ The list of dignities, c. 1645, by Rev. Jasper White (Lenihan, "*Limerick*," p. 565), assigns Mongrett, Tura Deil, or Blindman's Tower, Keilionachan, Ardmuolan, near Kilmallock, Cottan, or Kilny, near same, and the middle part of Cluoncourtha, to the bishop; Keililin, or John's Gate, and Baillishiwaird, in addition to those in 1633 list, to dean; Dromdily, in addition, to precentor, with the chapel of Rathnasaor (citing a roll of 1542), and Keelfariasa, or Kilfergus. We note in this list the spelling of "Crag Desert Morogan," or Morgans, the chapel of Crinbhailly, or Cliny and "Caithir Thiovalthalla."

Rev. Jasper White compiled a full list of the dignities and their benefices before 1652, he being precentor of the cathedral during the Confederate Government. It is given by Lenihan in "*Limerick*," p. 565, and need not be repeated. The dignities of the latter days of the establishment, 1826, may be found in Fitzgerald and Macgregor's *History*.

XIV. THE MONASTERIES.—The earliest and only noteworthy monasteries in County Limerick before the twelfth century were—Mungret, founded by Nesson, *c.* 530; Cluan Credhail or Killeedy, by Ita, *c.* 550; and perhaps Kilmallock, about 610. The numerous others, so uncritically collected in the received monasticons, were, as a rule, mere churches. After the Danish period, we meet no important foundation till King Thoirdealbath O'Brien founded Monasternenagh, S. Maria de Magio,¹ for Cistercians in 1148, to commemorate his victory over the Danes near its site; it was daughter of Mellifont. After the Norman Invasion, the Normans began eagerly to found monasteries, and were emulated by the Irish chieftains. The Cistercian cell of Feal, Nephillagh, or Abbeyfeale, a daughter of Magio, was founded 1188. The great Cistercian House of Uaithne, Wetheney, or Owney, was founded by Thomas Lord Carrick in 1205, and was a daughter of Savignac. The hospital of Aney was founded for Knights of St. John of Jerusalem, by Geoffrey de Marisco in 1215. An Augustinian Abbey seems to have been founded by King Donaldmore O'Brien in Limerick City before 1194, and another of Canons Regular, by Simon "Minor," in the same city. Somewhere between 1220 and 1240, King Donchad Cairbreach O'Brien founded a Dominican house in Limerick, and Franciscan convents there and at Galbally. St. Katherine's Convent of Augustinian Canonesses, in Oconyll (at Manisternagalliach, near Foynes), and the Trinitarian Monastery of Adare, were probably founded about 1240, and the Arosian House of Rathkeale about 1280. The Dominican House of Kilmallock was established by Gilbert, son of Lord Offaly, in 1291; the Augustinian House of Adare by the Earl of Kildare in 1315–17. The Franciscans were planted at Askeaton between 1389 and 1420 by the Earls of Desmond; and at Adare by Thomas, Earl of Kildare, in 1464. The lesser foundations will be noticed in the body of the survey.²

¹ Probably "of the plain," Magh, not the Maigue, for it was some distance from that river on a tributary, the Cammoge.

² The charters of Monasternenagh (1186 and 1200), Wetheney (1205), and the Augustinian House at Adare (1317) are extant. The "*C.S.P.I.*," vol. iii., No. 962,

XV. CHURCHES HELD BY THE MONASTERIES.—As we have noted, the passing of so much church property to lay owners is due to the holding of the said churches and lands by the monks.

The abbey of Keynsham,¹ in Somersetshire, held Iniskeffy (Askeaton), Rathgel, Rathofergus, Mayntaueny, Mayryne, Browry, Culbalysyward, Karracnesy, Mayne, Maymolcally, lands of Robert Dondonenold, &c., in 1237 (B.B.L., p. 75); all except Iniskeffy and Garthe, or Ballingarry, were, however, recovered.²

The Abbey of Athassell, in Tipperary, held Maynchro, Creuathomayll, Douenaghmor, Kilmuhoroc, Carnarthy, Rathayward, Glenogra, Kilbradran,³ and Kilcolman⁴ in 1253, when they were also recovered by the bishop (*ib.*, pp. 81, 84).⁴

The Abbey of Kells, in Ossory, held the rectory of Killagholican.⁵ The "Minister" of Holy Trinity, Adare, held the rectory of that church. The Abbot of Insula-molanfid, on the Blackwater, held Dermoko, or Darragh Mochua, Church in 1267–1272 (*ib.*, pp. 81, 84).

The Abbey of Cahir held Fedemer and Ballyhowen.

At the dissolution it was found that a vast number of benefices belonging to the dissolved abbeys lapsed to the Crown. Those in Limerick must be noted here.

The Prior of Holy Cross, Limerick, held St. John's; the Abbot of

gives a contemporaneous account of the first establishment of the Dominicans at Kilmallock in 1291. The foundation and various benefactors of the Franciscan House at Adare from 1464 were copied from the original register of the convent by Father Mooney. Beyond a few entries in the annals, the other foundations are probably in several cases merely traditional.

¹ Ware in his list of monasteries (followed, of course, by Archdall) gives Kynnythin among the abbeys of Limerick in 1300. I have seen the entry he cites, and think that (like Kentham, Kyntham, and Kinahane in similar entries) the abbot of Keynsham is intended.

² Pat. i Jas. I., lxviii., Sir R. Boyle was granted Ballengare, Askettan, Kilmachoe, Lismakyr, and Egliah Rosseye, parcel of estate of dissolved Abbey of Kenaham, in England.

³ Ec. de Kilbradrain, *cuj. rect. est* Prior de Athissell. Ec. de Kilcolmain, *cuj. rector, eod prior*; Glynngre, *rect. est prior* (Tax Proc., 1418).

⁴ Bishop Hubert was a monk of Athassell, which possibly gave him sufficient knowledge of its affairs to defeat its claims to certain benefices in his subsequent bishoprick. They had been held under a collation of Hubert the Bishop, till Robert the Bishop had a plea with Malchus, Prior of Athissell, before the Bishops of Waterford and Ferns, who surrendered Carnarthy and Rathsiward, retaining Kilbradran, Kilcolman, and Kilmuchorog (B.B.L., p. 103).

⁵ Eccle. Killocholiathan spect ad Prior et conv. de Kellys (Tax Proc., 1418); also Kylmohurk (*ib.*).

Temolyne held Urgare;¹ the Master of Any held the rectory of Bruff, or Buroghe, with Any, Moreton, Ballymon, Ballinlogh, Kilkallan, Carecorne, Ballyraude, Broo (Bruff), Rochestown, Knockelonge, and Templebridan churches; the rectories of Woyne (Owney), Cloghken, Karkenliss, Ballinvoyle, Ra-wr-don (Rathjordan), and Cahyr-ilti, with other livings outside the county.² The guardian of Magio held Camus Chapel. The Abbey had been granted the following churches in Prince John's Charter, 1185 :—Ceallmeccerell (Kilcurley), Granshagh (Grange), Kealkillen (Kilcallan), Cathercorny, Camus, Ceallseanig, Ceallconill, Ffedomair (Fedamore), Brug (Bruff), Cealladleach (Killilagh), Imlechdrogingi (Emlygrenan), Kilnarath, and, perhaps, Darach-muchua.³ The Abbot of Wethney held numerous livings outside the diocese—at Arklow, Thurles, and Tyone;⁴ and the Prioress, or Mistress, of Manisternagalliagh held Newgrange, Dunmoylin, and Robertstown.

XVI. THE NAMES IN THE SURVEY.—In compiling the survey, questions often arose as to what names should be admitted. Most were obviously actual church-names; but among the rest it was hardly possible, in all cases, to have avoided such errors as giving separately a church named in an ancient record, and its site disguised under a later name. There was also a risk of wrong identifications, but all are marked doubtful that seem merely probable. I also fear that a few of the "kill" names may be woods (coill), not churches. Peyton's "Survey" warns us against this danger by giving long lists of apparent church-names annotated "*boscis et subboscis*." To obviate this danger, I have, as much as possible, given only "kill" names at which a church-site is recorded, or a graveyard exists.⁵ Again, a "coill" name, like Kilbeheney (Coill Beirne in 1502), is sometimes a church as well as a wood, for confusions between the two words arose even in the Middle Ages, as the records abundantly show. The descriptions of the churches are based on the Ordnance Survey Letters, but are, as far as possible, corrected and supplemented.

¹ The prioress of Teaghmolynd, in 1418, held the churches of Iwyrgear and Wrygydy (Tax. Proc.).

² Leases, ix-xii Eliz., Exchequer Records.

³ C.S.P.I., vol. I.

⁴ xxxiii Eliz. Proceedings against E. Walahe, Exchequer Records.

⁵ Peyton, *s.g.*, pp. 55, 143, 179.

⁶ Occasionally an unequivocal name, like Cellcrumterlapain, Glennahaglish, or Kiltemple, is admitted, though not named as a church in the records, or displaying any trace of the building.

These letters are, as a rule, good and careful, especially the letters of J. O'Donovan, P. O'Keefe, and A. Curry; but the abbeys are undescribed, or poorly described, so I have striven to visit and examine all their sites, though the condensed descriptions give little scope for usage in these notes. I owe some explanation for my treatment of some of the older authorities.¹ To reject the dicta of (for example) O'Donovan or Reeves calls for defence. The first of these great scholars does not, however, seem to have even slightly examined the Black Book, the Surveys, and State Records and Taxations, indispensable for correct identification and judgment as to the true names. No one, for example, could have given *Maḡ Ḥamneac*, or *Meḃonac*, for Mahoonagh, who had seen any of the countless records of *Mo Tawnagh* and *Tawnagh*;² or identified *Dysert Oenghus*, near Croom, with *Dysert Murdebra*, near Askeaton. Dr. O'Donovan seems, in fact, to have had little respect for Latin and other non-Irish records; at least, he used them very little. In the case of Dr. Reeves, his wonderful knowledge of the records was occasionally warped by want of mere local knowledge, or of records authoritative for single names, as in the cases of *Crecora* and *Cloncoragh*.³ Not a few other writers have treated the subject of identifications and name-meanings with so little study or judgment that I feel no hesitation in rejecting their conclusions.⁴ It is for such reasons, and not for novelty, or from underestimating our predecessors, that I note the occasions where I have arrived at a different conclusion from theirs.

¹ The authorities before O'Donovan are very unreliable; such identifications, for example, as *Clarina* for *Cluan Credhail* abound.

² Some difficulty seems to attach to the later name of Mahoonagh. It is rendered *Medhonach* in R.S.A.I., xi. (1870), p. 629.

³ *Eaglas Montin Church* (Temple Athea), though given as in Ardagh deanery, is identified with Mahoonagh (in Ballingarry deanery) by Dr. Reeves. Moycro, apparently near Rathurd, in the deanery of Limerick, is equated with *Croagh*, in the deanery of Ballingarry; Killacollam with *Ballyculhane*, and *Say* with *Dunkephy*, instead of with *Cullam* and *Caherass*; and Dr. Reeves at first appears to have identified *Cluencomarba*, near Kilmallock, with *Crecora*, near Limerick, but I believe in later notes identified it rightly with *Cloncorahs*, or *Colmanswell*: see MSS., T.C.D., 1063, p. 115. *Rathronan* is also identified with *Temple Allea*, *ibid.*, p. 103.

⁴ For example, in such derivations as "Ford of the hundred fires (of Baal)" for *Askeaton*; "St. Athanasius" for *Atheneasy* (*Ath-na-Deisi*), the ford of the *Deisi*; "the church of the rough ford" (*Scariff*) for *Kilnegarruff*, the church of *Maccon the rough*; "the Church of the devout daughter" for that of *Inghran Baoith*, daughter of *Boetius*; *Ardfert* = place of the miracles of *Ert*; *Ownsey Abbey*, i.e., *St. Anthony's Abbey*.

It only remains to me to ask my readers' forgiveness (and far more, their practical criticism by publishing corrections) for mistakes, which most probably may be proved to exist in so very wide and complex a subject. The survey is the work of a pioneer, and does not pretend to be an exhaustive and final monograph.

XVII. BISHOPS OF LIMERICK.—During the period of the records most used in this Survey, it is well to keep in mind the bishops of the diocese, by whose names numbers of deeds can be approximately dated. When the term "bishop" is used without qualification in this paper, it refers to the Bishops of Limerick only—Gille or Gillebert,¹ 1116; Patrick, 1140; Harold, 1151; Turgeis, 1151; Brictius, *c.* 1177 (St. Mary's Cathedral built in his time); Donat O'Brien, *c.* 1195; Geoffrey, of Dungarvan, 1207; Edmond, 1216; Hubert de Burgh,² prior of Athassell, 1223; Robert, of Emly, 1251; Gerald le Marischal, 1275; Robert of Dundonnell, 1307; Eustace de L'Eau, 1311; Maurice de Rupefort, 1337; Stephen Lawless, 1353;³ Stephen de Valle, 1360; Peter Curragh, 1369;⁴ Cornelius O'Dea, of Killaloe, 1400; John Mothel, 1426; William Creagh, 1459; Thomas Arthur, 1472; Richard —, 1486; John Dunow, of Exeter, 1486; John Folan, of Ferns, 1489; John Coyn, 1521; William Casey, 1551 (deposed 1557); Hugh Lacy, 1557 (resigned or deprived 1571);

¹ For Gille and Patrick, see Account of Synod of Rathbreasail in "Keating's History," Book II., and Archbishop Usher's "Veterum Epistolarum Hibernicarum Sylloge" (ed. 1632), p. 77, Letter of Gillebert, Lunicensis ep., *c.* 1090, p. 78, Tracts "de usu ecclesiastico," p. 78, and "de statu ecclesiæ," p. 88, and another letter, p. 120; Profession of obedience to Canterbury by Patrick, Bishop of Limerick. For Brictius, see also "Calendar of Papal Letters," and "Calendar of Documents relating to Ireland."

² A facsimile letter of Bishop Hubert may be seen in "National MSS. of Ireland," vol. ii., No. LXXII (3), asking compassion for the wrongs done to the See by Geoffrey de Marisco and his son, William, 1235.

³ Theiner's "Vetera Monumenta, Hib. et Scot." (ed. 1864), No. DCXVI, Innocent VI. to Stephen, elect bishop, on death of Maurice, 1353; DCXLII., same to Stephen, elect bishop, on the death of late Bishop Stephen, 1368; CLXXVII., same to Petrus Curiath, 1369; DCCLXXIX., 1466, annulling letters of Thomas, falsely named Bishop of Limerick, on petition of John the Bishop; DCCLXXXII., 1457, Calistus to Thomas, Bishop of Limerick; DCCCLXXX., 1485, John Dunmore, Bishop of Limerick.

⁴ Called Peter Creagh in the local histories, but Peter Curragh in the Exchequer Records, Fine, iii Hen. VI., No. 39. The Bishop held Curragh, in County Limerick; Matilda Curragh was his heir. See Cal. Mem. Rolls, vol. ii. (Ferguson, P.R.O.I.), recited in Roll, iii Hen. V., m. 34. Peter was also fined 100 m. for not attending a Parliament held at Kilkenny, and afterwards at Tristledermot, Feb. 18, an. xvii Ric. II., Mem. Roll.

W. Casey (restored 1571); John Thornborough, 1593; Bernard Adams, 1603; with whom we may close the list.

AUTHORITIES.

The following gives the short references as used in the subsequent survey:—

"1201," Inquisition of Meyler FitzHenry (Black Book); "1204," Ordinance of Bishop Donat O'Brien (same); "1291 and 1302," Papal Taxations (English Exchequer); "1410,"¹ List of Churches (White MSS.); "1418," Taxatio Procuracionum of Bishop O'Dea (Black Book); "1452," Rental of O'Conyll (Irish Exchequer); "1593," Valor Beneficiorum;² "1586," Christopher Peyton's Survey (P.R.O.I.); "1615," A and B, and "1633," Regal Visitations (P.R.O.I.); "1645," White's dignities; "A.F.M.," Annals of the Four Masters; "B.B.L.," Black Book of Limerick (at Maynooth); "C.S.," Civil Survey; "C.S.P.I.," Calendars of Documents and State Papers, Ireland;³ "D.S.," Down Survey, 1655-7. "A" refers to the unburned maps; "B" to the burned maps in P.R.O.I.; "Petty" to the copies now in Paris; "F.G.," Fitzgerald and Macgregor's History of Limerick; "L.M.H.," Liber Munerum Publicorum Hiberniæ; "N.M.I.," Facsimiles of National MSS., Ireland; "O.S.L.," Ordnance Survey Letters (R.I.A.) in E. 8 and 9, cited as "8" and "9"; "P.M.D.," Association for the Preservation of Memorials of the Dead in Ireland; "P.R.O.I.," Public Record Office, Ireland; "R" Roll; "Patent," "Close," and "Plea"; "R.I.A.," Royal Irish Academy; "R.S.A.I.," Royal Society of Antiquaries, Ireland, under its successive names of Kilkenny Society and Royal Historical and Archæological Association, &c.; "V.T.P.," Tripartite Life of St. Patrick, ed. Whitley Stokes.

The sections give the most usual name; the number of the sheet of the O.S. map of 6 inches to the mile; the older name and chief records; the Fabric or Site; Publications relating thereto.

¹ It existed in a copy from "torn rolls," among the papers of Edmond White, Canon of "Ardcanty," and was recopied by Rev. Joseph White, brother of Edmond. For full account see M. Lenihan's "Limerick," p. 557, *et seqq.*

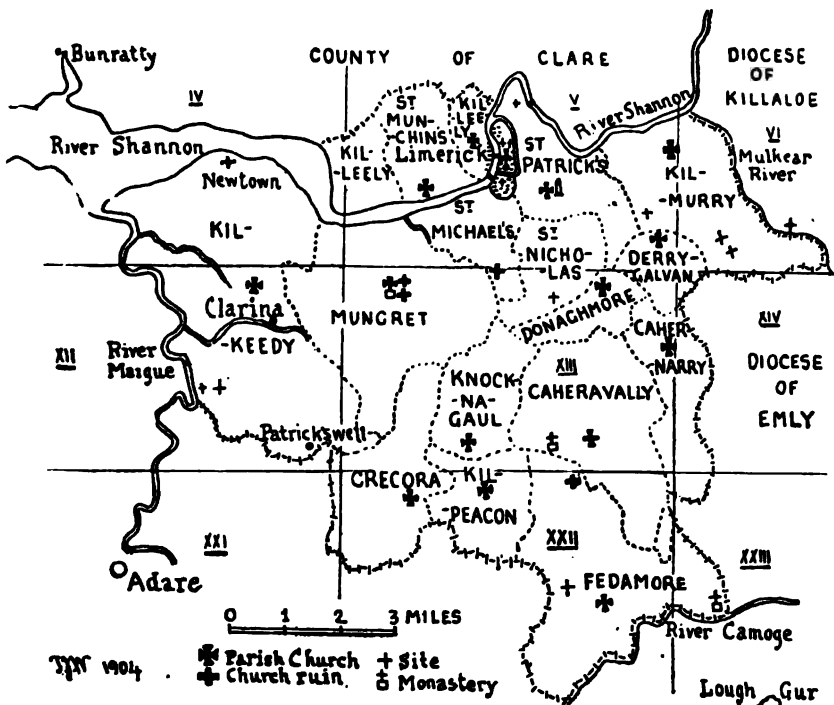
² Let me warn against the ancient copy among the MSS. E. 3, 15, of Trinity College, Dublin. It purports to date 1538, but is really a very inaccurate copy of the 1591 Valor. To give a few examples: it gives Sluth Mouchaini for Sancti Monchini; Ballykahell for Rathkaell; Moltourlagh for Mohonniagh; Gunesketun for Ennis-ketten (Askeaton); Kilternague for Kyllcornayn; and Arodamore for Ffeadamore.

³ The earlier ones being most used are noted here as vol. i. (1177-1252), ii. (to 1284), iii. (to 1293), iv. (to 1301), and v. (to 1307), where this most valuable work breaks off till Tudor times.

SURVEY OF THE CHURCHES.

THE DEANERY OF LIMERICK.

The name is, of course, taken from the Cathedral City. It appears in early times as "Luimneach," for the estuary of the Shannon, and a district, or rather group of tribes—the Tuath Luimneach—on its southern bank. Perhaps the least improbable of the suggested derivations is "grazed bare by horses." Others are from the "cloaks," or the "shields,"¹ which were swept away by the tide. The Norse name, Hlimrek,² has been equated with "rich loam." The rural deanery is first named in 1291.



The Deanery of Limerick.

¹ Dindsenchas, No. 57 (*Revue Celtique*, 1894), the "luimne," or grey green cloaks, or from the "lummans," or shields.

² It will be remembered that Rafn, a Norse "Hlimrek" merchant, seems to have been one of the first to tell the world of the voyage of Ari, the Icelandic, to

LIMERICK CITY.

1. CATHEDRAL CHURCH OF THE BLESSED VIRGIN MARY.—It was founded by Donaldmore O'Brien, King of Munster. His grant (1192-1194) to it and Bishop Briccius of the lands of Imungram, or Mungret, and Imalin (Ballyclogh), is the earliest document preserved in the Black Book, and is witnessed by Matthew, Archbishop of Cashel, 1192. Its possessions were found by a jury (of twelve each) of English, Ostmen, and Irish, under Meyler FitzHenry and Bishop Donat O'Brien, 1201, "ptin ad Lymer eccliam" (B.B.L. xxii.). A grant remains by which (King) John, 1189, gave a fishery and Godric's land, "near Lymberik," to it (B.B.L., p. 94). A vast mass of deeds relating to it are extant in the Public Records of England, Ireland, and Rome.

Fabric—It is alleged to have been built on the site of O'Brien's palace, within the Norse city. It was a cruciform structure, with Gothic arcades, and "Norman" door and clerestory. To this various additions were made till the original plan is greatly obscured. The chapels from east to west are, along the south, St. James Major and St. Mary Magdalen, built by Thomas Balbeyn, c. 1370, and repaired by Richard Bultingfort, c. 1400; the south transept repaired by John Budston, 1400; St. Anne, founded by the Sextens after 1450, and St. George, by the Stacpoles, c. 1480. On the north are the following chapels, from the west:—St. Catherine's Chapel, built by the Arthurs, after 1450; the Chapel of St. Nicholas, by Nicholas Arthur, who died 1465 (probably the Napier and Jebb Chapels), and a chapel of the Creagh family (either the transept or the small western chapel).¹

The chancel was enlarged, *ante* 1207, by Bishop Donat, and again by Bishops Curragh and O'Dea, and Thomas Arthur, 1380-1410. All "three transepts" were repaired and the choir enlarged by Bishop John Folan, c. 1490. The Creaghs restored the north-western chapel, and the Harolds the chancel, in 1526. The belfry is an afterthought, probably of the fifteenth century. The battlements and turrets are later than 1681 (Dyneley, &c.).²

Monuments—The most interesting ancient monuments are—

the coast of North America, "in the Western Ocean, near Vinland the Good" (Landnamabok).

¹ The Creagh coat-of-arms was painted in it "on the left hand," near the entrance to the choir, about 1583. MSS. T.C.D., E. 3. 16. See R.S.A.I., xxviii., p. 45.

² See illustrations, Plates XI., XII., and XIII., and plan, Plate XV., *infra*.

Donalmore O'Brien, a tombstone, with four lions round a Celtic cross, 1194; Bishop Donat, 1208; the Bultingforts and Galweys, 1404-45; John Budston, 1427; John Fox, Prior of Holycross, Limerick, 1519; Dean Geffry Arthur, 1519; Dean Andrew Creagh (after 1543); J. and E. Harold, 1529; Bishop Cornelius O'Dea, 1434, restored 1621; Donough, Earl of Thomond, 1619, restored 1678; Bishop Bernard Adams, 1626; Thomas Mahon, and A. Creagh, 1631; Standish Hartstonge, 1663; W. Yorke, 1679; Samuel Barrington, 1693. And of later monuments—Lord Glentworth (Pery), 1844; S. Barrington, 1842; Bishop Jebb, 1833; Thomas Westropp, "1830" (*recte*, 1839); and Col. Thomas Gloster, 1861—a hero in the Peninsular War. *Bells, &c.*—A peal of bells was given by John Budston, 1401; another by W. Yorke, 1679, still extant; the carved Misereres, *c.* 1480, of black oak, are well preserved. *Descriptions*—Thomas Dyneley's Tour, 1680-81 (Journal R.S.A.I., viii., 1866, p. 343) Ware's "Bishops," ed. Harris; Histories of Limerick, by W. Ferrar, 1767; Rev. P. Fitzgerald, and J. J. MacGregor, 1827; Maurice Lenihan, 1866; and Rev. J. Dowd, 1896; Guide Books to the Cathedral, by Rev. Canon Meredyth, 1883 and 1887, and Rev. J. Dowd, 1899. Journal R.S.A.I., Monuments, by M. Lenihan, 1866, p. 334; Mitre of Bishop Thomas Arthur, vii., Ser. iv., p. 369; Carvings and History, by T. J. Westropp, *ib.*, xxii. (1892); Plan and Growth of Cathedral, *ib.*, xxviii.; Limerick Field Club Journal, vol. i., part 3; Crozier of Bishop Cornelius O'Dea, and Mitre, "The Reliquary," July, 1893; Carved Oak Seats, by D. A. Walters, "Ecclesiologist," 1861; Limerick Cathedral restored.

2. **ST. MUNCHIN'S CHURCH.**—Parish and Prebend. It is reputed to be the oldest church in Limerick; and its foundation is attributed to St. Mainchin,¹ son of Sedna, son of Cass (king, 400), who was cousin of Cairthin Finn, the first Christian king, and lived *c.* 480-500. It was used by the Christianised Ostmen as a cathedral. "Ecc. Sci. Manchini," 1201; numerous deeds relate to it.² *Fabris*—It has been rebuilt on many occasions; the present church only dates from 1827. The Hardiman map³ shows the church as a building with aisle, side chapel,

¹ "Mart. of Donegal," p. 351.

² In August, 1693, it was "out of repair for Divine Service"; it held a third of the tithes of Kilrush. "Limerick Terriers," P. R. O. I., No. 12.

³ A portion of this most interesting map, showing the English town, is reproduced in R.S.A.I., xxxiv., p. 177. The date, 1590, is, of course, only approximate, as the corners of the original are cut away, with possibly the surveyor's

and tower. *Monuments*—Elinor, daughter of Thomas Young, 1649; Thomas Smith, 1711; Major James Buchanan, 1778.¹ In 1680 Dyneley says that the church was of no interest, save for the monuments of W. Brenagh, 1594, and Jane Smyth, 1679. *Description*—Fitzgerald, vol. ii., p. 556.

3. ST. JOHN'S CHURCH.—It is named by Bishop Donat, 1200 and 1201, and many later documents.² *Fabric*—It retains a few portions of the old fabric, though almost entirely remodelled. It measured 60 feet by 63 feet, and had aisles. In 1680 Dyneley's sketch shows it as having two side aisles, with east windows, having rich Gothic tracery. The central gable had a plain rectangular window, with shafts, set in the arch of the older one. In the north wall were a double light, with pointed heads, a single lancet, and a pointed door; there was a double bell-chamber on the east gable.³ *Monuments*—Before the rebuilding of 1763⁴ there was a fine monument of Thomas and Johanna Rice, 1622, and a tablet of John Foorde, Mayor, 1693, calling the church "Sancti Johannis de Sancta Cruce." *Description*—Fitzgerald, vol. ii., p. 558; Dyneley, *ut supra*.

4. ST. NICHOLAS' CHURCH.—In 1204 Wm. de Burgo names it "Sci. Nicholai, cum eaf. p̄tin," "ex donacione litteris vero Regis Momonie," *i.e.* Donaldmore, *ante* 1194 (B.B.L., p. 109), also M.F.H., 1201. It is named in the wills of Martin Arthur, 1376,⁵ and Geffry Galwey, 1445.⁶ It was in good repair in 1615. *Fabric*—It is shown in the Hardiman map of *c.* 1590 (No. 57) as having a side aisle to the north

name and the date; but the style, and the words, "Queens's Castel," mark it as late Elizabethan. It sketches the cathedral and castle with reasonable accuracy, which carries conviction as to the equally careful sketches of the Dominican and Franciscan Convents, and the Churches of St. Munchin (Moghin), St. Nicholas, and St. Michael. It is first described in Fitzgerald's "History of Limerick," 1827, vol. ii., p. 421, and in Trans. R.I.A., vol. xiv., p. 72.

¹ P.M.D., iii., p. 104, and p. 315.

² St. John of the Holy Cross, in the Liberties of the City of Limerick, 1689. Terrier, P.R.O.I., No. 1.

³ R.S.A.I., 1866, p. 435. See copy, Plate XII., *infra*.

⁴ Another extensive rebuilding took place under Rev. John Elmes in 1851. He notes that the new church was to be 20 feet longer (10 feet both to the east and west) than the older church. Limerick Court Books, 1851.

⁵ Fitzgerald's "History," vol. ii., p. 562.

⁶ R.S.A.I. xxviii., p. 123. Galwey also leaves legacies to the cathedral (Chapel of St. James), the Friars Minor, St. Munchin's, Holy Cross, St. John's, and St. Michael's.

of the main building ; a central tower with a low, pointed spire, and a planted cemetery. It was destroyed in the siege of 1651 ; the cemetery lies near the castle barrack.

5. **ST. MARTIN'S CHURCH.**—Named in Inq., 1201, and Bishop Donat's Ordinance, 1204.

6. **ST. LAURENCE'S CHURCH.**—Inq., 1201, also called "Cotthenu," Tythes of fish at "Cotheann extra civitat," named 1204 (B.B.L., p. 109), "Ecc. de Cottyn, *alias* Sci. Laurencii," Tax. Proc., 1418. See also Martin Arthur's will, 1376, and Royal Visitation, 1633. *Site*—It stood near the County Hospital, and has been long since demolished.

7. **ST. MARY'S ROUND CHURCH.**—Only named in Inq., 1201, "Ecc. S. Marie Rotunda."

8. **ST. MICHAEL'S CHURCH.**—Inq., 1201. Wills of M. Arthur, 1376, and G. Galwey, 1445. The church and chancel were ruinous in 1615.

The parish church of St. Michael the Archangel, entirely destroyed in the times of Cromwell, lay near the walls outside the West Water Gate, 1658. The saint's day was 29th September. (White MSS.)

Site—It was long since levelled. The view in the 1590 map shows a building with a side aisle and a battlemented tower. The cemetery remains in James's Street, near Bank Place. *Monument*—Rev. Dr. E. Wight, Archdeacon, 1790.¹

9. **ST. BRIEID'S CHURCH.**—Inq., 1201.

10. **ST. ANNE'S CHAPEL.**—Edward II. granted certain tenements to W. Blound to celebrate masses there, 1320 (Pat. R., p. 73).

11. **ST. ANDREW'S CHAPEL, Limerick Castle.**—Henry III. granted a fishery, mills, and lands, at Drumyn, "to our chapel, Limerick Castle," W. de Cardiff to be its parson, c. 1216 (undated, B.B.L., lx., pp. 42, 101, 116). This deed calls King John "*bonæ memoriæ*"! Another (B.B.L., p. 101) states that when King John was at war with his barons the fisheries and mill, with Drumyn, belonged to the chapel of Limerick, whose parson was William de Kardyf (xxi.), Ap., 1216 (?). Also a grant, c. 1240, by Bishop Hubert to Geoffry de Mariscis, and the latter's appointment, c. 1250, of Thomas le Capellan to the king's chapel in Limerick Castle (B.B.L., xliii.)²

¹ P.M.D., iii., p. 104.

² Among the later churches we find—I. C., St. George's, 1789 ; Presbyterians, c. 1690 : they got the chapel of Augustinian monastery of St. Peter, 1776, in R.I.A. PROC., VOL. XXV., SEC. C.] [29]

MONASTERIES IN THE CITY.

12. **THE AUGUSTINIAN CONVENT.**—Founded by “Simon Minor” (? Mynetor), temp. King John, for regular canons, and dedicated to the B.V.M. and King Edward. Nicholas Harold attorns Henry de Berkeley in a suit against the Prior, 1282 (Mem. Rolls), “Richard, Prior of the Hospital of SS. Mary and Edward, near the Bridge, in Limerick, 1321 (Plea R. 134 of xiv Edward II., m. 9 d.). Granted to Edward Sexten (Inq. xix and xx Henry VIII.). Sir Patrick Harold was its last prior. *The furniture and plate* of its church were—a chalice, left to it by the prior, Sir John Fox,¹ the altar, an alabaster table, four candlesticks, a censer, two pair of cruets, twenty-one books, holy-water stock, organ, eighteen wax tapers, three copper crosses, three vestments, and a great bell, two small ones, three bowls, and two old coffer: the furniture of the residence is also given.² *Site*—It stood on the site of the City Court House, in Bridge Street, opposite the cathedral, some fragments of mediæval walls, with windows, remain.

13. **ST. PETER'S CONVENT.**—Founded by Donaldmore, 1171, for Canonesses, O.S. Augustine. Protection granted “to the Prioress of S. Peter Lym,” 1377 (Close R., xli Ed. III.), granted to Edmond Sexten, 1541 (Fiant 179), renewed 1562 (Fiant 347, Eliz.). *Site*—It stood near the town wall at the lower end of Peter's Street, and is only conventionally shown on the 1590 map.

14. **“HOLY CROSS,” OR “HOLY ROOD.”**—“The cell of Our Lady” or “St. Mary and the Holy Cross.” Founded for Austin Hermits, by an O'Brien in the thirteenth century, and often confused with the House of SS. Mary and Edward.³ It was granted April, 1539

Peter Street; the Quakers, 1665, Creagh Lane, 1671 and 1735; Methodists, 1748, Church of St. Francis Abbey till 1763. The Roman Catholic Church was allowed no regular place of worship from 1690 to 1740: the churches date—St. Munchin's, 1744; St. Mary's, 1749; St. Patrick's, 1750; St. John's, 1753; St. Michael's, 1781. The Augustinians, 1739–40; new chapels, 1778 and 1823. The Dominicans, 1780; new chapel, 1815. The Franciscans, in Newgate Lane, 1782.

¹ This seems to tell against one reading of an obscure line on his monument in the cathedral, “Prepositus of Holy Cross,” perhaps “Dec: ist: ecc.”

² Inq., Sept. 28, 1537. Partly published in Fitzgerald's “History,” vol. ii., p. 568.

³ The Priors of St. Mary held six townlands—Priorsland, Monksland, Clashgilly, Bramloge, and Inschymore—subsequently granted to Edmund Sexten. (See Inquis., 18th March, 1615.)

(Patent R.), to Edmond Sexten (despite a petition of the Corporation for the house "which Edmund Sexten craftily obtained" C.S.P.I., 24th December, 1539). *Site*—It stood to the south of the Franciscan House, on the Island of Limerick, at Sir Harry's Mall, and has been long since demolished. In 1559 it was found to be sublet to seven tenants—some of it in poor, small tenements. The body of the church, hospital, steeple, a waste garden, barns, and close then remained (Inq. iv and v Ph. and M., June). In 1594 Stephen Sexten held "the religious house of the B.V.M. and the Holy Cross," with a mansion house and a belfry, in ruins, a choir, or chancel, a little garden, and a thatched house (Inq. xxxvii Eliz.).

15. THE DOMINICAN CONVENT, OR "THE MONASTERY OF DONNOHO CARBRY."—It was founded by Donchad Cairbreach O'Brien, King of Thomond, about 1225, and he was buried in it in 1241. Here were also buried several Bishops²—Hubert de Burgh, of Limerick, 1250, Donald O'Kennedy, and Matthew O'Hogan, of Killaloe, 1251 and 1281, and Christian, Simon O'Curran, and Maurice O'Brien, of Kilfenora, 1254, 1303, and 1321. The monastery of St. Saviour of the Dominicans, 1410. Lenihan (History, p. 646) gives a long history, citing *inter alia* the Book of the Friars Preachers in the Sloane MSS. (Brit. Mus. 4793), to which I refer. The house was granted to James, Earl of Desmond, and, on the attainder of Earl Gerald, to the corporation, 1586. Pope Innocent X. erected it into a university in 1644; and it was turned into a barrack, 1679. *Fabric*—The 1590 map shows a lofty belfry without battlements, four ranges of buildings in repair, and the side arcades (or windows) and doorway of the ruined church.³ It is described in 1535 as the site of a church, steeple, dormitory, three chambers, a cemetery, sundry closes and gardens, and four acres, with 30 acres of land at Courtbrack, a fishery of salmon, and Monabrah, near Parteen (Jan. 7, xxv Hen. VIII.). The ivied north

¹ Peyton's "Survey," 1586.

² Their epitaph is preserved in the Register, "senos pontifices in se locus claudit iste; . . . Hubertus de Burgh presul quondam Limerici; Donaldus, Mattheus pastores Laonienses; Christian, Mauritius, Simon, Fenaborensis," &c. See Fitzgerald, vol. ii., p. 571. Donchad Cairbreach O'Brien. The founder was here buried, 1241. See Lenihan, p. 646, for his epitaph, and a long account of the abbey. It will be remembered that Terence O'Brien, R.C. Bishop of Emly, who was executed by Ireton in 1651, was friar of this house, and provincial of the order in 1644.

³ Richard Bultingfort by his will, 1405, left a legacy to the Friars Preachers, for the repair of Holy Trinity Church. See R.S.A.I., xxviii., p. 121.

side wall, with large plain windows, various other fragments of buildings, pillars, capitals (probably of a cloister arcade), and portions of carved tombs, and a fireplace remain. A detailed description, with a plan and illustrations, is a desideratum. See Lenihan, "Limerick," pp. 646-653.¹

16. THE FRANCISCAN CONVENT.—It is said to have been founded, either by Donchad Cairbreach O'Brien, before 1241,² by "W. Fion de Burgo," who died 1287, or by a certain "Mary, Countess of Desmond, 1350." The older writers, however, mention the burials of Sir Thomas and Sir Richard de Clare within its walls, 1287 and 1318; so the later "founders" (as so often) may have been restorers. For its dissolution, see *Inquis.*, xxxiii Hen. VIII. It was granted to Humphry Sexten in 1545 (*Fiant* 456). *Site*—It is carefully shown in the "1590" map. There was a large massive tower with three-stepped battlements and a side turret, besides several low buildings. It stood east of and outside the city walls, near the Abbey river. Father Donat Mooney about the same time describes its site as "delightful," lying to the south of the Dominican House and north of the Holy Cross, and it had extensive orchards and gardens. The walls were still standing, though unroofed, and were of poor masonry, but the ruins were spacious. Its first founder was the "Baron of Castleconnell, or one of his family," and it was the de Burgos' burial-place. A Protestant named Sexten held it. It was a mere refuse heap, and used for a tannery; the records and precious movables were lost, but a few of its friars rented a house in the city.³ Bishop Pococke, in 1752, saw "an old convent turned into a tanyard" at the site ("Tour," ed. Stokes, p. 114). Some of its vaults and graves were found under a corn store on Sand Mall. These have entirely disappeared. The east window was removed in 1789 to St. George's Church, and thence to St. Michael's, but has been taken out. The county courthouse was built on the site.⁴

Another Franciscan church is said to have stood in Mary's Lane, whence a very curious window, now set in Kilrush (Old Church), and a piscina and font were removed. *Plate*—Two chalices, 1619 and

¹ See 1590 view, Plate III.

² A deed of the Abbot of May (Monasternenagh) to David Long, *circa* 1210. witnessed by Symon Hereward, Mayor of Limerick, mentions lands from the new Gate of Limerick, "*ad aream fratrum minorum.*"

³ Published in the *Franciscan Tertiary*, v., p. 263.

⁴ See 1590 view, Plate XII.

1626, belonging to the Limerick Franciscans, are described by Rev. C. P. Meehan. See "Franciscans," and P.M.D.I., p. 443. Lenihan, "Limerick," pp. 653, 661.

17. **THE TEMPLARS' HOUSE.**—It is said that the old Methodist church stood on its site in St. Francis' Abbey. The Exchequer Rolls, London (1927, i Ed. III., and MSS., T.C.D., 1060), mention "Lymer civit. De bonis Templariorum, 3s. per Robertum de Trim."¹ Lenihan says that the Templary was in Quay Lane.

CHURCHES NORTH OF THE SHANNON.

Certain churches and parishes in the civic bounds, but to the north of the river, may here be noticed. These were Kellchuan, or Kilquane, and Killiedan (? Killeely), named in the Inq. M. f. H., 1201; Kilcohan (Kilquane), Kilheil (Killeely), Kilhyntena (Kilfintinan), and Kilrusce (Kilrush), given in 1302, Papal Taxation. Creattalech (Crattoe), and Yharmid (Huamerith, 1199, y-Emrid, 1287, or Hy Aimrid, the district at Kilfintinan), *alias* Kylkennan, and Kyllyntynan² were claimed in the Tax. Proc., 1418. These, except Kilfintinan, Killeely, and Kilrush, were retained by the diocese of Killaloe, and are in County Clare.³

18. **KILRUSH (5).**—St. Munchin's parish. Kellross, with church of S. Macuchini, 1201; Kilrusce, 1302; "Kyllross, Synynd, in termino," 1400.⁴ The name is obviously from the land in the bend of the river; but a patroness, St. Rossa, sister of St. Munchin, has been invented. *Fabric*—A very early Irish oratory stands in the grounds of Oldechurch. The west door has inclined jambs, and a massive lintel;⁵ the east window has a circular head and splay arch. A curious window, with an obscure inscription of the Quinlinans, is set in the south wall; this was brought (as already stated) from St. Mary's Lane, preserved by the

¹ I hesitate to include in a list confined to ecclesiastical structures "the Hospital, or House of Leapers, near the city of Limerick." It held forty ploughlands by patent from Henry III., as appeared by the ancient record in 1615. It was granted to the Earls of Desmond, and, on attainder of Earl Gerald, to Robert Aneslie (Inquis., 18th March, xii Jac. I.). Spital, *alias* Hospitall Land, 1657 (D.S.(A.) 10), near Rosbreen.

² Killfintenan appears as in the deanery of Limerick in the *Visitatio Regalis*, 1633, March 17. The vicarage was in the County of Clare and Diocese of Limerick even in 1805. Limerick Terriers, P.R.O.I., No. 39.

³ Proc. R.I.A., Ser. 3., vol. vi., pp. 151, 153.

⁴ One of the last entries in the Black Book tells of the recovery by Bishop Bernard Adams of $\frac{1}{2}$ carucate at Killrois, long lost to his predecessors.

⁵ See sketch *infra*, Plate X.

late Mr. Robert Vere O'Brien. *Description*—T. J. Westropp, in *Proc. R.I.A.*, Ser. 3, vol. vi., p. 153.

19. **KILLEELY** (5).—A parish. Attributed on late "authority" to St. Lelia the virgin, sister of St. Munchin; her day was August 11th. John Pincerna warranted the lands of Killele to Bishop Hubert, 1250 (*B.B.L.*, p. 50). Kilheil, 1302. Priorsland, to the north of Thomond Bridge, and Ffarrenykilly belonged to St. Mary's House. It was the glebe land of the rector of Kileely, and held by the parson, March, 1615 (*Inq.*, p. 163). *Fabric*—The walls and gables stood in ruins in 1657 (*Petty*, p. 63). The graveyard alone remains.

CHURCHES SOUTH OF THE RIVER.

20. **ST. PATRICK'S CHURCH, SINGLELAND** (O. S. 5), Parish and Prebend.—St. Patrick is stated to have baptised Cairthenn, son of Blatt, chief of the Dalcassians, the children of Toirdelbach, at Sengal, about 440 ("Tripartite Life," x. cent., ed. W. Stokes, p. 207). Monkish legend derived the place-name from "Sois aingel," because "another angel" than "Victor" appeared to the Saint. A great victory was gained by Ceallachan, of Cashel, over the Norse at Saingéal (Wars G. G.) in 943. Sengola, 1201, Rathgerallan, and Dromohiba pertained to it, 1224. A charter of Bishop Hubert, *ante* 1250, and a quit claim of John de Penrys to Sennkyll, to be held in pious memory of Bishop Robert (died 1275), remain (*B. B. L.*, xlviii.), *Sen na ghauil*, 1410; *Sangol*¹ (valor), 1591; "St. Patrick in Singleland prope civitatem," 1615. On July 18th, 1597, the Dean, Chapter, and Vicars Choral granted to James Cromwell, Singleland, of which the mearings were, Aghnebegh, Curraghberrin, Frelinfourde, or Aghkillfellen, or Cloghanenemagarte; along with the "personages" and vicarages of Corkmohead, Dromcollohon, Killmyde, Cloencath, Cloneltie, and Killmollanie, with their chapels and "gleabes" to be "paid at the stone within the said cathedral" (*P. R. O. I.*, Deeds and Wills, No. 6). *Site*—The graveyard alone remains. A broken round tower and ruined church are shown on the Down Survey map, 1657 (p. 13),² and were levelled in 1776 (*Fitzgerald*, ii., p. 561); near them stood the Singland battery in the sieges of 1690–91.

21. **KILLALEE** (5).—Kelilin, 1410, Kilelie de Donaghmore, 1614;

¹ Sengol had a sanctuary, *B.B.L.*, p. 11. Molago, of Saingel, was commemorated August 13th.

² See copy, Plate XII.

Killilleene, 1657 (D. S. (A) 13). *Site*—Only the graveyard remains near St. John's Gate.

22. KILMURRY (5).—A parish in Clanwilliam. Kilmehurrok, 1291, 1302. In 1325 Ade de Gouly and Richard Perpoint¹ had a suit about Kilmoroke, which Gouly's great-grandfather, Regin Le Flemyng, held (Plea R. 148 of xviii Ed. II.). Kilmurray dedicated to St. Mary Magdalen, 1410; Kilmohurk, *alias* Kilmurry, held by the Prior of Athissell, 1418. Temple Moyrry, 1586 (Peyton). Kilmeremagdalyng granted to Bart. Cusack, 1551 (Fiant, 744); Killingally, *alias* Kilmahallock, held by Bishop of Killaloe, 1633; Kilmury, D. S. (A) 1 and 4. *Site*—The modern I. C. church¹ occupies the old site since 1810. (See O. S. Letters, 14 E. 9, p. 23.)

23. KILRANE (5).—In same. Killeen and well of St. Mary Magdalen.

24. "MONASTER NE CALLOWE DUFFE."—In same 1586 (Peyton, p. 264). "Monister ne Callow Diffe, the Black Abbey, Limerick, in the city parish of Templemory, holding of Earl of Thomond."

25. "KILLDAIRY."—Near Karrigadacham, appurtenance of St. Munchin's, 1201. Inq. M. f. H.

26. CORBALLY (5).—"Templenamona," in Corbally, 1586 (Peyton, p. 24), A Killeen.

27. KILLONAN (6).—In same. Killonayn, 1601; (Fiant, 6487); Killownane, D. S. (A) 4; Lonan, son of Erc, of the Ui Fidgeinte, who was at Mullach cae, south of Carn Feredaig, a disciple of St. Patrick, dwelt to the east of Singland, c. 440 (V. T. P., p. 307). O'Donovan, with no cited authority, gives "Cil Adamnain." *Site*—A killeen, near the railway station of the name.

28. DERRYGALVAN (13).—A parish in Clanwilliam Barony. It does not appear in the list of churches, 1201; I find Derigavun in 1291; Dalgavun, 1302; Derighealvain, dedicated to St. Nicholas (Dec. 6th), 1410; Deregaluane, 1418. Its rectory was granted to John, Abbot of Wethnia, under the name of "The Church of the Blessed Virgin of Derrygeallywan or Derrygaloin (xxvii Hen. VIII., Lib. Mun. Hib., ii., p. 96); Derragallinn, 1591 (Valor); John Donovan, rector, 1551 (Fiants 923) Doirpe Uí Géalbain, O'Galvan's oak wood (O'Donovan). *Site*—Some fragments remained in 1840; they have now disappeared; they stood in the graveyard, near the railway, in Ballysimon (O. S. L. 9, p. 32). The church is shown in 1657 (D. S. (A.) 5).

¹ I. C., Church of Ireland; R. C., Roman Catholic Church.

29. **KILLOVENOGH**.—In same parish, lay on the stream to the north of the last, 1657 (D. S. (A.) 5).

30. **DONAGHMORE** (13).—A parish and prebend in Clanwilliam. The "Tripartite Life" says that St. Patrick baptised the men of Thomond at Domnach mor Maige Aine, at Tirglas, in the east of the present County Limerick (V. T. P., p. 307). It appears as Donaghmor¹ and Douenathmor, 1200 and 1201, Dounaghmor, 1302 and 1410, being then a prebend; and Donnachmore cum Ballyag, *alias* Ardpatric, 1418. It was granted by Bishop Edward to Odo fitz Budci (B. B. L., p. 78). The Prior of Athissel restored it, Mayncrow, and Creuath Omayll to Bishop Hubert, 1239 (*Ib.*, pp. 80–90). Maurice, Bishop of Killaloe, granted it to Bishop Gerald, 1275–99 (*Ib.*, xxxvii.). Richard de Burgo claimed its lands from John Sweyn, 1300 (Plea R. 48 of xxviii Ed. I., m. 29 d.). Canon Robert Chaffe appointed it a prebend on death of Richard Arthur, 1593. It is shown on D. S. (A.) map 9. *Fabric*—It is an early Celtic church, 26 feet by 39 feet 6 inches outside (O'Donovan), or 20 feet by 33 feet 8 inches inside. East gable is late and blank. The west door is massive, with a large lintel and inclined jambs. Garreglass glebe, in Donaghmore, is shown with a ruined church (D. S. (A.) 9). There are window slits in the south wall. *Description*—R.S.A.I., ser iv., vol. ii. (1872), p. 77, by Rev. M. Malone.²

31. **KILPATRICK**, on east border of Donaghmore, and distinct from Rathurd and Ardpatric (D. S. (A.) 9).

32. **RATHURD**³ (13).—An ancient parish merged into that of St. Nicholas. The king of Cashel claimed a fort here, *ante* A.D. 900, Rathardasuird ("Book of Rights"). Rathsyward and Carnarthy churches restored by Malchus, Prior of Athissel, to the bishop, 1253 (B.B.L., p. 101); Rathsyward church, between Donaghmore and Singland, 1418. The castle and land of Rathwerde, 1587 (C.S.P.I., p. 311); Rhashtree, 1615; Ratchurd (D. S. (A.) 10), 1657. O'Donovan considers it to be the Ratharda and Rathardasuird, or Rathsuird, of the "Book of Rights," *ante* 902. *Site*—Probably near the Round Castle. St. Patrick's Well alone remains.

¹ Ivanmach in King Donaldmore's grant may be a mistake for "Domnach."

² See view of doorway, Plate X.

³ The A.F.M. states that Rathardasuird was made by one of Heber's chieftains, A.M. 3501.

33. **KILPRICHANE**, *alias* South Rathurd, 1657 (D.S. (A) 9), perhaps a mere place-name.

34. **ROSSERBRIEN** (13).—In same parish. Fearannyguilleach, 1410. *Flarenygall* belonged to the Convent of Killone, County Clare, and was granted to Lord Inchiquin. The Earl of Thomond held it, March 18, 1615 (Inquisition), Farrennegallagh, 1657 (D.S.A. 10). *Fabric*—The church of St. Dominick, completely hidden in ivy; most of the walls are now levelled.

35. **MUNGRET** (13).—A parish and abbey in Pubblebrien.¹ It is a very ancient foundation.² St. Nesson established an abbey there; and died about 550. Mungairit appears in the "Annals" 750, 760, 934, 1080, and 1107.³ It was destroyed by the Norse in 820, 834, and 840. The Psalter of Cashel says that it had six churches and 1500 monks.⁴ It was granted to St. Mary's by King Donaldmore, 1192–1194 (B.B.L., xxix.); "Imungram and Ivamnach from the arch of Imungram to Imalin. Henry III. granted a market on his manor of Muntgaret to Bishop Hubert, 1225 (C.S.P.I., vol. i., 1262). Documents are numerous, but never allude to it as an abbey. I select letter of G., Bishop of Lismore, to Bishop Hubert as to lands of Mungaret and Donathmor and Sengol church (B.B.L., xxiv.) John F. Geffry grants Coromoran, Falsky, and Mungarreth to Bishop Robert, 1260 (*Ib.*, ix.). The rental of Bishop Maurice de Rupefort, 1336, gives the manors of

¹ Pobul ui Bhriain, or Pubblebrian, is one of the later divisions, and represents approximately the old cantred of Escloun. It is said that Brien Duff, son of Conor, King of Thomond, settled at Carrig Ogunnell (the ancient seat of the Uigonaing and Ui Ciarmhaic) in 1406. The place had been held in 1220 by Donchad Cairbreach O'Brien, King of Thomond, and subsequently to, at least, 1300 by the de Burgos. Pubblebrian, as defined in the grant of 17th Feb., 1684, to Brian Duffe O'Brien, of Carrigogynnell, covered Derreknokan, Cnocknegall, Cnockgromassell (Tory Hill), Kyllonchon, Kyllynoghtie, Cahirephollyen, Graige, Atifeuin, Barnechoile, Ballyanrichan, Terrevowe, and Clonouny. This forms about half the present barony, the parishes of Kilkeedy, part of Crecora, Killoasghan, Killeenoghty, and part of Ballycahane.

² The abbots named after Nesson are: 762, Ailill; 909, 965, Conn Maoleaisil; 993, Muirgheas; 1006, Caicher; 1070, Cathasaig.

³ Archdall's "Monasticon Hibernicum," and Ferrar's "History of the City of Limerick," i., pp. 3–4, make the unwarranted statement that St. Patrick founded Mungret Abbey in 433. For its history see Lenihan, "Limerick," p. 537.

⁴ Cormac, King of Cashel, by his will left "three ounces of gold and a silk vestment" with his "royal benediction to the coarb of Mungairet." Keating's "History."

the See as Mungret, Killocta, Cluaincheuer, Ardacha, Leamchail, Sean-gula, and Dromdyle, and worth £98 13s. 4d. (MSS., T.C.D., F. 4. 22, p. 325). The rental of Bishop de Rupefort mentions Tynnamuntury, Villaydowaynin, Villaycrynan, Villaydowan, Villaymolcassell, Cloch-down, Billycomye, and Ohibyle, as forming the manor in 1336 (B.B.L., p. 138). Bishop Pococke, in 1752, notes it as "Mongret, a poor old convent, with a tower" ("Tour," p. 114). Maps in D.S.(A.) 1 and 12. *Fabric*—The monastic church calls for more elaborate description than has been published, or than space allows. It is a late Gothic building, 113½ feet long, 29½ feet at the west, and 27 feet at the east face. The chancel 49 feet by 15 feet, and a nave 33 feet by 34 feet by 23 feet 4 inches. It has a residence 22 feet by 12 feet at the west end, and a small tower to the north of the last, divided by string courses and with battlements and small opes. The chancel arch is defaced; the east window has two pointed lights,¹ and is flanked by large, stepped buttresses. (See also O.S.L. 9, p. 29).²

36. The second church lies to the south-east of the last. The east gable and sides remain. It is 14 feet by 12½ feet, the west end nearly levelled; the east window-slit and two broken south windows remain.

37. The third and oldest of the churches lies to the north, and is possibly of the tenth century. It measures 41 feet by 23 feet, the walls being nearly 3 feet thick and 14 feet high; the west door has a lintel and inclined jambs; the windows have round heads.³

Papers—The History and a View of the largest Church, by Rev. Denis Murphy (R.S.A.I., xix.). See also "Lives of the Irish Saints," by Canon O'Hanlon, i., p. 30; vii., p. 383.

38. KILMARTYN.—In same parish, 1586 (Peyton, p. 254); no church mentioned.

39. ESCLON, or ESCHLUANA.—The ancient parish of the name is merged into Kilkeedy. Ballydorchon, Ballyhibebon,⁴ Rathen, &c., are recognised as in Escluona, 1201 (B.B.L., p. 120). Leasernamadda and Clelam, in Estlona, were granted by W. de Burgo to Bishop

¹ Not with tracery as drawn in Hall's "Ireland."

² See plan, Plate XVIII.

³ For sketch, see Plate X.

⁴ Ballyhibewi, or Ballyhibeli, a family of O'Hibyle dwelt on Mungret Manor. 1336 (De Rupefort's Rental, B.B.L.). Perhaps the Gortnehowyle, not far from St. John's Gate, in the Perambulation deed, 31st Aug., 7 James I., 1609, derives its name from the same family.

Donat O'Brien, 1200–1207 (*ib.*, p. 103). The manor contained Clarani (Clarina), Esclon, and Newtown, in 1283 (Pipe R., xi Ed. I., No. 14). It belonged to the de Burgos. A series of lawsuits about Newton de Esclon occurred 1315, 1320 (Plea Rolls, 113 of ix Ed. II.; 127 of xiii Ed. II.; 131 of xiv Ed. II.). "Escluana," *alias* "Kylkyde" rectory belonged to Athassell, 1418. *Site*—Perhaps the church at Newtown. *Papers*—R.S.A.I., xxxiii., p. 197, by J. G. Barry¹ and a note by T. J. Westropp.

40. KILKEEDY (12).—A parish in Pubblebrian. Perhaps Kelliedun, 1201; Kilkid, 1302. Thomas de Burgo was found to have held the perpetual vicarage of Kylkyde, now lapsed to the Pope, 1369 (Papal Petitions, i., p. 450; Theiner, p. 339). Keilchidy dedicated to SS. Simon and Jude (28th Oct.), 1410. Kilkydy granted with other rectories formerly belonging to Athassell to G. Moore, 1578 (Fiant, 3414). Kilkide in repair with a thatched roof (Visitation, 1615). Given in D.S.(B.) 26 map and Civil Survey. *Fabric*—Of the older church, only a north wing, 29 feet north and south and 18 feet wide, and a featureless fragment to the east still remain. The east wall has a defaced window, the west, a door, arched inside with flags and with cut stone outside. *Monuments*—Samuel Cooper, of Cooper Hill, 1779, and James and Mary Berry.²

41. NEWTOWN (4).—In same parish. "Newton in Esclon," or "de Esclon," 1283, held by Simon Waleys and W. Lucas (Pipe Roll, xi Ed. I., No. 14) in 1315 (Plea Rolls); "St. Margaret's Church, of Newtown, near Carrigogunnell," 1410; bailenua, 1502 (A.F.M.). *Fabric*—The ruin stands near the Shannon. It measures 56½ feet by 22½ feet; the east window has two pointed lights and round-arched splay. The other windows and the south door are defaced. The walls are 18 feet high and 3½ feet thick. It was used only for the burial of unbaptised children in 1840 (O.S.L., p. 137, by A. Curry, and O.S. sketch, No. 14).

42. KILLEEN, in Newton (4).—*Site*—A burial-place, near St. James's Well.

43. KILCOLMAN (12).—A townland in same parish, mentioned 1657 (Civil Survey, p. 16).

¹ In view of the numerous church sites in Kilkeedy parish, I am as yet unable to endorse the view of this very interesting paper that the *churches* of Kilkeedy and Esclon are identical, though the parishes are certainly the same.

² P. M. D., vol. i., p. 438.

44. **KILTEMPLAN** (12).—A townland, near last (Civil Survey, p. 16). Kiltemplane, with Kilcullman, Kilcoulta, and Clounana, granted to W. Barker, May, 1667 (Act Sett. xxi. Car. ii. 1). *Site*—Kiltemplan is locally Temple na Caoille,¹ but nothing remains of the church. See note by J. G. Barry in R.S.A.I., xxxiii., p. 198.

45. **KILCOULTA**, near last, 1667, Act of Settlement.

46. **KILNACALLY**.—In same parish. It is not Temple-na-Caoille, for Kiltemplan is named as a separate townland. Killnachallichy, 1201; Keilnechally, near Claireen Bridge, dedicated to St. Enat, or Ethna, 1410, perhaps Killygelly parish, 1418.² Emelina, widow of Maurice fitz Maurice, had a suit with John de Inteburge about lands at Kilcaly, near Limerick (Plea Rolls, 40 of xxvii Ed. I., m. 82 d.); Killingally parish, 1633; Killincullie (D.S.(B), p. 26. Claireen Bridge is Clarina, or the Ford of Clare (Civil Survey, p. 24). Killnakally adjoined Cragbeg on east and Brosnagh on south, 1655 (*ib.* p. 19). *Site*—Now forgotten, but was evidently in Elm Park. See paper by J. G. Barry, *loc. cit.*, and T. J. Westropp, R.S.A.I. xxxiii., p. 297.

47. **KILBOY**.—A townland, near last, 1655 (C.S., p. 21). *Site*—Forgotten; in townland.

48. **KILCORAN**, OR **KILCORNAN** (12).—A "Kyle" in Ballyanrahan. A burial-ground used by the Roses. Not far distant is Patrickswell, giving its name to the village, at least, from 1711 (Hardiman maps).

49. **CRECORA** (22).—A parish in Pubblebrian.³ John de Cogan granted to St. Mary's Cathedral, Crecourhia, in Ochoichur, 1282

¹ Among other places in Kilkeedy parish bearing the name of the Caoille tribe, we note Caoille an Chosnamha, 1560, for this district, "a heap of stones called Lishdermode-Ikallie, near Tirevow-oughtragh," in the Perambulation Deed, 1609. It is called Caher na Casille; and there are two other forts, Caher Caoille-generah and Caherdavin, all within the present demesne of Tervoe. The map in the British Museum, dated 1680, shows Tempulnacailly and Carherkilleganar (Caherkilginarragh and Caherdauin, in D.S.A. 12).

² Dr. Reeves identifies Killygelly with Killeely (MSS., T.C.D., 1063, p. 94), but without giving any reason for same, the Killygelly of 1418 being evidently the Killingally in the Visitation of 1633, which gives Killeely separately.

³ Identified by Dr. Reeves (MSS., T.C.D., 1063) as Cluancomarba, M.f.H., 1201; and Cluain Comardae (Ann. Inisfallen, 830); but the first document marks the latter place as in southern Limerick; and the Visitations, &c., give Cluaincoursy as Colmanswell, and are supported by the map of Cloncoraha in the Down Survey. The Annals imply that Cluain Comardae was not near the Norse settlements at Limerick. This I hope to discuss more fully under Colmanswell.

(B.B.L., p. 96), or in Othotochor (*Id.*, p. 100). See also p. 96. Symon f. Walter was rector of Crecouertha, 1278, and resigned 1282 (*Id.*, p. 44). W. de Wess granted all his claims on the church of Crecourtha, in "Orthorlothor," to the Dean and Chapter of Limerick, c. 1280 (B.B.L., p. 130); Crecouth, 1291; Crecowere, 1302; Criochura, dedicated to SS. Peter and Paul (29 June), 1410; Crewcourtha, 1418; Crecorah, 1615; Crewcroah, 1633; Crecorey (D.S.(B.), 23), 1655. It is shown as roofed, 1657 (D.S.(B.) 21). O'Huidhrin calls it "the territory of O'Conaing, by the meadowy side of Craobh Cumhraidhe," 1420 (Topography, p. 129). Crecora, "the branching tree" (Dr. Joyce). *Fabric*—Only the ivied and featureless west end, 24 feet wide, and about 14 feet of each of the sides remain. The walls are 11 feet high and 4 feet thick, and are built of large field stones. It stands on high ground with a fine view. *Monuments*—John Ap John, 1781; Furnell Tomkins, 1797.

50. KNOCKNAGALL (13).—A parish in Pubblebrian. Knocknaghauill, dedicated to St. Brigid, 1410; Cnocknegall (O'Brien, *Inquis.*), 1584. "The church and trees of Knocknegawell," 1607 (*Perambulation*, p. 156). Cnocnangall, hill of the foreigners (O'Donovan). It was in repair 1657 (D.S.(A.) 11). *Fabric*—The church is in Lemonfield; about 10 feet of the south, and 30 feet of the north, wall remain. It had a nave and chancel, and seems of late masonry.

51. CREWALLY,¹ OR BALLYCLOGH (13).—In same. It derived its name from the Ui mhaille, who, with the Ui Cadhla, were chiefs of Tuath Luimneach, and were confirmed in their lands by King John. Donaldmore granted lands as far as Imalin in 1192-94 (B.B.L., xxix.); Imailidin, 1201. King John granted lands in Omayll to Bishop Edmund (B.B.L., pp. 95, 119), April, 1230, confirming same with its villeins (C.S.P.I., vol. i., No. 1812); Crevath Omayll, and Donachmor resigned by Athassell, 1239 (B.B.L., p. 90); Crewacagh, near Donaghmor, 1253 (*Id.*, p. 101); Crevachmahill Church, 1302; Crew Ymallie, 1336 (De Rupefort's rental); "Crewwe Iwally, *alias* Ballyincloghe, in possession of Chris. Arthur," given after Knocknegawell, and next Rathwerde, 1615 (*Inq.* 18 Mar., xii Jac. I., p. 162);

¹ Identified with Knocknegall by Dr. Reeves; but they are given as separate benefices in those attached to the precentorship of Limerick, and in the *Inquisition* of 1614 are named separately. They may, however, be different names for the same union of small old parishes.

Crewally, 1615; Crinbhailly, or Cliny, 1645. It formed the north part of the present parish of Knocknegall. *Site*—A castle, but no church site, remains in Ballyclogh.

52. DERRYKNOCKANE (13).—A parish in 1633. It included Knocknegall in 1657 (D.S.(A.) 11), and adjoined Crewmally, so may be an *alias* for either parish; no church-site known.

53. KILPEACON (22).—Parish and prebend in Pubblebrian. An undated early deed of Richard de Burgo, about the rents of Douenanthmor and Kypychan, says that the latter was waste, and held by John Lysnekylle (B.B.L., No. 1); Kilbegan, 1302. Richard Ford was rector (MSS., T.C.D., E. 3, 14); Keilbecan, dedicated to St. Becan,¹ 1410; Kilbekayn, *alias* Balycinconcour, 1418. An inquisition was taken as to Kilpychan and Douenanthmor, 1279–1302 (B.B.L., 1); Dermot O'Mulrian was prebendary, 1557 (Fiant, 158); granted to Sir W. King, 1667 (Act. Sett., xix Car. II. 4). *Site*—The old church has been levelled; some old steps were uncovered near the present I. C. church. The nave was built by Sir W. King, c. 1690; the tower by E. Villiers, 1759; church burned by Whiteboys, 1762 (Lewis, ii., p. 198). It was united to Hakmys before 1418; and to Knocknagall, 1806. *Monuments*—Sir W. King, 1706,² Westropp, of Attyflin, and Cripps Villiers, of Kilpeacon. St. Patrick's Well lies in Kilpeacon demesne; near it was found a golden shell; there is a defaced dolmen in the earth-fort of Badgersrath, east from the church.³

54. CAHERNARRY (13).—A parish in Clanwilliam. Keyrnedyn, *alias* Carnarthy, named in charter of King John, 1207 (B.B.L., p. 89). Carnarthy was restored to Bishop Robert, by Athassell, 1253 (B.B.L., p. 101); Karnathie, 1302. Lawsuit as to Roger Bagod's right of

¹ "Beccán, who loved vigils, in Clonaird was his house. He was of Cluin Mobécoc, in Muscraige Breogain, in Munster." Cal. Oengus, May 26th. The Limerick church is not to be confused with the other Kilpeacon in Clanwilliam, Tipperary. See "Christian Inscriptions of Ireland" (M. Stokes), vol. ii. p. 32.

² The Castle of Kilpeacon and the mansion of Sir W. King lay nearer to the church than the present house. They, with a fine library, were burned down about 1776, and have been quite levelled.

³ A certain fort called "Cathyrpechan" may have been near the church: it was held with Dromassill, or Tory Hill, Balycathyn, &c., by Anastas, wife of Henry de Berkeley, in 1321 (Plea Rolls, xiv Ed. II., No. 131, m. 8). The "Camp field" is marked by several raths; another on the "Green Hill" is about 350 feet round, and 15 to 20 feet high.

mair, granted by John, Earl of Mortain, to Magio Abbey, *c.* 1185 (C.S.P.I., vol. i., p. 136); Fedemer, 1237 (*ib.*, 2383); Reglas Fegmor, named with Glenogra (Plea R. 32 of xxv Ed. II.) S. John de Fedm., 1302; suit of W. de Cammile against Richard de Clare, about Fedemer, 1317 (Plea R. 119 of xi Ed. II.); Feadamuir, dedicated to St. John the Baptist, 1410; Fedamor, 1418; Fedamore et Balione, 1615; ffedamoore (Peyton, p. 2), 1586; Feadamur, "Damair's wood" (O'Donovan). *Site*—The modern I. C. church was built on the old site in 1740. It has monuments of John Croker, of Ballinagarde,¹ 1717, aged 93; John Heart, 1741–1736, &c.

59. KILCASKIN (22).—In same. A graveyard (V.S.L., p. 377).

60. ROCKSTOWN (22).—In same. *Fabric*—The church was 43 feet by 19 feet. Featureless fragments remained in 1840.

61. FANNINGSTOWN (22).—In same. Ballyanhiny, or Fanningstown, 1410; Faningstowne, in the parish of Fedamore, 1586 (Peyton, p. 2); Templeroe, in Faningstown, erected by the Templars² (Lewis, i., p. 616). baile na mbpatarbeg (O'Donovan) *Site*—Only foundations 38 feet by 16 feet remained in 1840 (O. S. L., 8, p. 371).

62. BALLIOWEYN, in Fedamore, 1291, 1302, 1410, 1615.—The site is unknown, perhaps one of the last places.

Besides these are two churches of unknown situation.

63. "MAYNCHRO," named with Mungret and Rathurd, *c.* 1239; with Donaghmore, *c.* 1239 (B.B.L., pp. 73, 80, 90, 101); and with Donaghmore and Crewagh Omayll in 1253 (*ib.*); Moynchro church worth 20 m. (C.S.P.I., iv., 377). Hugh Purcell granted to Bishop Gerald wood and turf in Clonlismor, Clansderbasse, and Moycro, 1289 (B.B.L., xv). Hugh Purcell was granted free warren in it and Ballycathelan, 1297 (C.S.P.I., iv., 377); Thomas, Prior of Rathgell, was accused of violence at Moycro, 1318 (Plea Roll 116 of xi Ed. II.). It was apparently in Limerick Deanery, and if so, it cannot be Croagh, as supposed by Dr. Reeves (MSS., T.C.D., 1063, p. 101).

Gadelica, ii., p. 243), and show that it was a personal name; while Ifedomair suggests a tribal name. A "Kilferdemor" is mentioned 1601 (Fiant, 505).

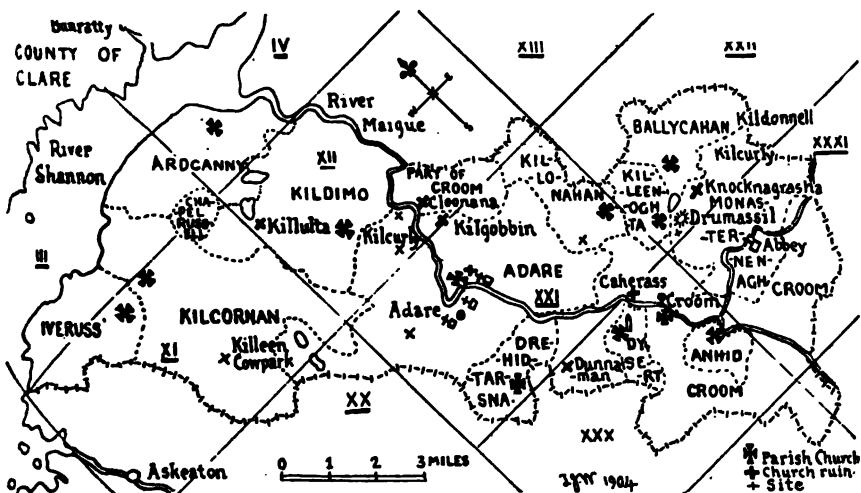
¹ Grandson of John Croker, of Lynham, Devon (P.M.D., vol. i., p. 98; iii. p. 314).

² This, perhaps, only rests on the erroneous idea, but usual in County Limerick, that all churches called "Temple" were built by the Knights Templar: see sections 61, 167, 168, 178.

64. "**KILSANANLEYGHT APUD LIM.,**" held by N. de Burgo, 1317 (Plea R. 119 of xi Ed. II., m. 4 d.). It can hardly be Kiltinanlea, in County Clare, despite the likeness of the names. There was a Kylse-
nanleth in Connello. It was held, 1452, by the parson of St. Michael (Kilmihil, O.S., 37), and lay near Corcomohide (Rental of O'Conyll). There was a Kiltenanlee, near Kiltenan, at Croagh; but neither it nor the Clare church could correctly be described as "apud Limeric."

DEANERY OF ADARE.

The deanery corresponds roughly to the tribal districts of Coshmagh, Kenry, and Iveruss; much of the territory of the Ui Cairbre Aobhdha was included, but its centre, Bruree, lay outside the limits.



The Deanery of Adare.

Caenraige, or Kenry, was once in Ui Cairbre, and a few of the O'Donovans, once princes of Bruree, are said to have remained, or returned, after Donaldmore's great raid, and to have built Croom Castle. The chiefs of Kenry, as we have noted, were Maoilchellain (Mulholland), and Ui Rossa, or Ui Beagha, of Iveruss, who were subordinate to O'Donovan in pre-Norman times. The kings of Cashel claimed in this district the forts of Magh nAsail and Asail, near Tory

¹ "Book of Rights," pp. 87-95.

Hill, and Aenach Cairbre, near Monasternenagh, in 902.¹ The deanery took its name from the principal castle-town Adare, Athdara, or the "Ford of the Oaks." The castle occupied the ambit of an older rath; the ford was superseded by the picturesque old bridge over the Maigne at the head of the tideway.¹

65. ADARE (21).—A parish in Coshmagh, Kenry, and Upper Connello. It is not named in 1201 and 1204, but appears in a grant of 1226, permitting G. de Marisco to hold a fair on his manor of Adare (C.S.P.I., vol. i., 1415). Its vicar, Master Tyrell, witnessed a charter of Bishop Hubert (B.B.L., No. lxvii.). The "vill" is mentioned in 1281; and in 1290 and 1293, Agnes de Valence, the king's cousin, wife of Maurice FitzGerald, and Juliana de Cogan, their daughter, enfeoffed John de Verdon in the manors of Adare, Castle Robert, Cromyth, Wyrgridi, and Grene (C.S.P.I., vol. iii., p. 381, No. 800). Mention of this group of manors is thenceforth very common. In 1321, Agnes, widow of Richard Russell, had a suit against Philip Houche and John Creuagh,² for dower on Athdare (Plea R. 13 of xiv Ed. II., m. 9 d.). In 1329 Adare was waste on account of the war. In 1334-5, Edward III. gave use of the lands of the late Earl of Kildare to repair Adare (Close R. viii Ed. III., m. 8 5 d.). It was confiscated in 1536 on the attainder of the Earl. In 1567 the church and monasteries were granted to Sir Warham St. Leger; in 1577 to Sir W. Drury; in 1582 to James Golde; in 1585 to Sir H. Wallop, grants being very numerous.

THE CHURCH OF ST. NICHOLAS, of Adare, appears in 1291, 1410, and 1418, when it was served by the minister of the Convent of the Holy Trinity. Master Tyrell was its vicar, c. 1280, John Hely, vicar Sci. Nicholai de Athare in 1551 (Fiant, 792), Adare chapel, "with stone walls covered with thatch," named in Inq., July, 1330. It was in good repair 1615, and used as a parish church till 1806. Maps 1657 (D.S. (A) 42, 49, (B) 6, 18). *Fabric*—It consists of nave and chancel, the former 31 feet by 17½ feet (not "unusually square," as in "Memorials of Adare"). The east window is lofty, narrow, and round-headed; the side ones closed; the choir arch, rude, and slightly pointed, under a two-oped belfry. The nave is 50 feet by 25 feet, with two windows,

¹ There is an interesting map (D.S. (A.) 42) called "Ballingady Par.," which gives it as containing Adare, Drohidarsny, Desert, and part of Athlaca. Repeated on a larger scale in No. 49, with large map of abbeys and towns.

² The Crevagh, or Creagh, family appear to be a branch of the Russels (not of the O'Neills), and hold lands at Adare till 1650.

and a door to each side; the priest's residence was at the west end, and is 25 feet by 21 feet.¹ No ancient tombs remain. The Quins (afterwards Earls of Dunraven) buried in the chancel.²

66. **EARL DESMOND'S CHAPEL-OF-EASE.**—A small mortuary chapel, with a vault below, 34 feet by 16 feet. The east, north, and south windows have flat splays and trefoil-headed lights; the west is similar, but is 12 feet above the floor, and has window seats, and near it are corbels for a gallery. The chapel seems of the fifteenth century; but its founder, and the origin of its name, are unknown; it stands 78 feet to the north of the church.

67. **ST. JAMES' HOUSE.**—It is named in 1291 "domus Beati Jacobi de Adare," worth 40s. The site are unknown; some suppose it to have been embodied in the Franciscan convent.³ (See Appendix.)

68. **THE TRINITARIAN HOUSE, OR WHITE ABBEY, OR MANISTER BEAN.**—Founded for the redemption of captives, the only Irish House of the order. The "Memorials" (p. 36) gives an elaborate account of its foundation from Lopez and Bonaventura Baron,⁴ but the accounts are late and demonstrably inaccurate. The alleged date is 1230; the founder, Lord Ossory; and the monks were (it is said) brought from Aberdeen. Nicholas Sandford was prior in 1299 (B. B. L., p. 98). Peter, "minister of the Order of the Holy Trinity at Adare," was prior in 1319, and was, with three monks, John Croyne, John Lees, and Gilbert de Clare, accused of seizing the goods of the Augustinians (Plea B. 127 of xiii Ed. II.). He got license to purchase 3 acres in Adare in 1329 (Patent R.). The convent had a grant of £20 per annum "to the convent of SS. Trinity of Addara," in 1359 (*Ibid.*). Numerous other documents relate to the house, which was granted on its dissolution in 1567 to Warham St. Leger. Numerous other grants exist, perhaps the most important being that to Sir Edward Ormsby, 1667, of part of the Commons of Adare, the Black, White, and Poore Abbeys, Spittle Land, gardens and burgess lands of W. Stritch, Stephen Lee, Pierce Creagh, Lisaght, &c. (Act Sett. Roll, xix Car. II.,

¹ See plan of it and the chapel, Plate XVIII.

² The Quin chalice at Adare is inscribed "for the use of the parish of St. Nicholas Adare, 1726," by Thady Quin, Esq., "orate pro eo," R.S.A.I., xxviii., p. 136.

³ R.S.A.I., vol. xxi. (1890, '91), pp. 322-3 (but see Cal. Papal Lett., vi., p. 397).

⁴ As Mr. Hewson has pointed out, "Baron" or Baronius enjoys undeserved regard, being confused with the learned annalist, Cardinal Baronius, a century earlier.

No. 54). Peyton, in 1586, described it as Monaster Bean, or the White Abbey of Adare, in Cosmaye (Peyton, p. 252). *Fabric*—It was restored by the Earl of Dunraven as the R. C. Church in 1811. The massive battlemented tower, the chancel, and parts of the nave and domicile, with the round pigeon-house,¹ remained; the east gable of the church was subsequently removed

69. THE AUGUSTINIAN HOUSE, OR BLACK ABBEY.—It lies near the bridge on the south bank of the Maigue, and was founded in 1315 by the Earl of Kildare; its charter dates 1317, and is extant. Edward II. granted two burgages in the manor of Adare to "the Hermits of the Order of St. Augustine," which John, son of Thomas, Earl of Kildare, and Thomas, son of John, "the present Earl," confirmed, Dec. 13th, xi Ed. II. (Patent R. Ireland). See the Plea R. (142 of xiv Ed. II., and 143, m. 4) for lawsuits as to the seizure of its goods and cattle by the Trinitarians as above, also above grants. It was held by Essex on his march to relieve Sir Francis Berkeley, then besieged in Aскеaton, 1599. *Fabric*—The nave, choir, inserted bell-tower, side chapel, cloister, domicile, gateway, and out-buildings, with a pigeonry, remain. Many of the features are of considerable beauty, especially the cloister arcades and sedilia; all of great interest. It was restored by Lord Dunraven as the I. C. church in 1807; and the domicile as a school in 1817. Dr. Pococke, in 1767, calls it "the Steeple Abbey," and describes its cloisters and sedilia (Tour, p. 116). There are no ancient monuments.²

70. THE FRANCISCAN HOUSE, OR POOR ABBEY.—It lies to the east of the castle, in the demesne, on the east bank of the Maigue. It was founded in 1464 by Thomas, Earl of Kildare, and his wife, Johanna, dedicated to St. Michael, November 19th, 1464, and consecrated, Michaelmas, 1466, with its church, cloister, both sacristies, and the cemetery. (The founders died 1478 and 1486, and Johanna was buried there.) Margaret FitzGibbon, wife of Cornelius O'Dea, who died 1483, built the great chapel of the Virgin; Cornelius O'Sullivan, the belfry; he died 1492. John of Desmond and Margaret FitzMaurice built two lesser chapels; Donough, the O'Brien Ara, the dormitory; he died 1502. Rory, Donall, and Sabina O'Dea built the cloister; M. O'Hickey, the north panels and stalls; Thomas, Knight of the Glens, and Honora, his wife, the infirmary; and the wife of FitzGibbon,

¹ Like that at Monasternagalligh, section 134.

² See plan, on Plate XIV., and views, Plate XI.

the east end of the chancel (convent register as given by Mooney, 1615). Reymond de Burgh, Bishop of Emly, was buried there in 1562. The convent was mostly roofless, but retained some of its glass windows about 1590,¹ when Mooney saw it; he also saw its plate and crosses at Cork, in possession of the last guardian, Father Fitzgerald. It was "stored again with friars" in 1572 (C.S.P.I.), but was granted to Sir H. Wallop in 1585. *Fabric*—The convent consists of a nave and chancel, with a belfry. A transept, with a side aisle and three small chapels. An arcaded cloister, with domestic buildings, kitchen, &c., a detached house, base of a cross, outer yard, mill-race, and enclosure with two gates. The details are of considerable variety, beauty, and interest.²

71. *HOUSE OF THE KNIGHTS OF ST. JOHN.*—It is named 1410, and is perhaps the spital land in the map, D.S.(A.) 49,³ and the spittle land in Adare, granted to Sir Edward Ormsby, 1627 (Act. Sett. xix Car. II., m. 1 d.).

72. *HOUSE OF FRIARS PREACHERS.*—Only named loosely in an allusion to the White Abbey, temp. Elizabeth; no certain evidence.

GENERAL BIBLIOGRAPHY OF ADARE.—Good and full descriptions, plans, and illustrations are given in Lady Dunraven's "Memorials of Adare." See also "Franciscan Tertiary" (Dublin), vol. v. (1895), p. 354; Wilkinson's "Practical Geology," &c.; R.S.A.I., vol. i., N.S. (1856), note by R. Brash, xxiv. (1894), p. 181; note by G. Hewson, Limerick Field Club Journal, vol. i., parts 1 and 2, notes by same; also Archdall, and the County Histories.

73. *KILGOBBIN (12).*—Same. An ancient parish, now merged. Killmacgoban, 1201. Killagoban, 1296 (Plea R. 22 of xxv Ed. I., m. 48); Kilgubban, 1298; Kilghobain, 1410 and 1418; Kilgaban, 1615b. *Fabric*—A rude, late little oratory, 27½ feet long and 19 feet wide, outside; only the west gable, with defaced door and belfry, and parts of the sides, exist.

74. *KILCURLY (12).*—In same. It lies to the west of the Maigne. Kylcharli, 1201; Kylkyrely, 1291. The Hospitallers served it in 1302. Cap. de Kylkyrille, 1400. It is mentioned with Adare in several grants and fiant, e.g. 1595 (Fiant 5964), "Kilcrile, Kilcoile, or Killcryll, Kilkerely, *alias* Kilcoyle, or Kilbride," belonged to the

¹ These were probably from 1572, when it was "stored again with Friars."

² See plan, on Plate XIV., and views, on Plates XI. & XIII.

³ The reproduction in "Memorials of Adare" is not facsimile.

Franciscan Convent of Adare. Kilkerrlle Church is given as in repair in Jobson's map, 1590 (1209, MSS., T.C.D., No. 56). Kilkerrill is shown as roofed (on Petty's map, No. 70, and D.S.(B.), p. 18) in 1657. *Site*—Its foundations remained recently near Kilcurly house, and west from the graveyard, in the position shown on the maps of 1657.

75. **KNOCKAUNAHALL** (21).—Same. Burial-place near Curragh-bridge.

76. **KILLEEN** (21).—Same. A burial-place near Monearla.

77. **CASTLE ROBERT** (21).—Same. An ancient parish now merged, "De Castro Roberti, 1291, 1410, 1418, and 1615 A. Its manor often appears with Adare, *q.v.* 1290–1293 (C.S.P.I., vol. iii.). In 1317. Blanche, widow of John fitz Thomas, had a suit with Thomas, Earl of Kildare, for dower on Roberde's Castle, Adare, Cromoth, Grene, and Estgrene manors (Mem. R., vol. ii., m. 13). It was a chapel of Adare, 1418. *Site*—The church was demolished to build a bridge ("Memorials of Adare," p. 270).

78. **KILLONAGHAN** (22).—A parish in Pubblebrian and Coshmagh.¹ Kellonchon, 1201, 1204. Geffry de Mareys did homage to Bishop Hubert for Killonethon, *c.* 1223; Killonwyn, 1302; Kyllonchan, 1418; Killanahan, 1615B; Killonahama, Killonaghinmore, and Killeonahanna, 1657 (D.S.(B.), 21, 25; Civil Survey, pp. 14, 15; Petty, 69). *cillanachain*, from St. Onchu, Feb. 8th (O'Donovan); the church was destroyed in 1641. *Site*—Part of the north wall, 9 feet long and high, of coarse field stones, stood in 1840; near it was the dry well of St. Senan (O.S.L. 14, E. 8, p. 39).

79. **CORRABUL** (30).—Same. Garabul and Charabud, 1657 (Petty, 69; D.S.(B.) 21). These maps show a large ruined church with doors in the west and south walls. Killoge an Imerish, at Carabud ("Limerick Atlas of Trustees," 1688–1703, map 23). *Site*—Is forgotten in the townland.

80. **KILLASRAGH** (21).—Same. In Ballybronoge, Ballynemroenog mearing with Atyfloyne, 1657 (Civil Survey, p. 15, and D.S.(B.) 25); perhaps the Killarugo (Petty, 70), in Killonaghan. *Site*—A low killeen, or burial-ground, long disused, with a slight earthwork. A kyle,² or mound, in Attyffin, when levelled, proved to be full of crumbling human bones.

¹ Pardon of the inhabitants of Killanaghan—O'Briens, Kennedys, Madigans, Burkes, Hogans, Stacpools, Scanlons, and Herberts, 1584 (Fiant 4621).

² This "kyle" lay in Attyffin near the south-west angle of the garden wall. See

81. **KYLE, OF CRANCAM** (21).—Same. Perhaps the Cromcon in charter of Magio, 1185. In Garranroe, Garranroo, in Cosmay, 1586 (C.S.P.I., p. 238). *Site*—A burial-place.

82. **KILLEENOGHTY** (22).—Parish in Pubblebrian. Kyllanatan, 1201; Killanajan,¹ Keilinoghtan, or Keilnaghan, separate from Killonaghan, 1410; "Ec. de Killynatan vendicabatur per prebendarium de Kylbekan sed fuit in man. Epi.," 1418; Kyllynoghtie, 1584 (O'Brien's Inq.); Killentaten, 1615 B.; Killinaten "mearing with Knockdrowmessill" (Petty, 69; D.S. (B) 21; Civil Survey, p. 5). Cillpiontneacta (O'Brien Pedigree, MSS., T.C.D. H. 1. 7), called Teampull na Sceat, or "Church of the Bushes," 1840. *Site*—The foundations measured 46 feet by 20 feet; no other trace was found in 1840 (O.S.L. 14, E. 8, p. 381).

83. **KEILBEINIGHTE**, between Killeenoghty and Croom, 1410, perhaps Corrabul.

84. **BALLYCAHANE** (22).—A parish and prebend, in Pubblebrian. Ballycathan, 1291, 1322. Lawsuits are recorded of Anastas, widow of Henry Berkeley, of Balycathan, 1323,² and Nic. Laundry, and David Fitzgerald, as to Balychatan, jux. Adar, 1324 (Plea R. 142 of xvi Ed. II., m. 4, and 148 of xvii, m. 4); Barth. Dulardi, scholar of Canon Law, held the canonry or prebend of Bali Cathain, in Limerick (Cal. Papal Pet. I. Jan.), 1361; Balycathan Prebend, 1418; Ballikahan, in Kenrymore, 1586 (Peyton, p. 222), D.S. (B) 22. Baile-uicathain, O'Cahan's town (O'Donovan). *Site*—The I. C. church was built on the old site, 1830, and its tower in 1823 (O.S.L. 14, E. 8, p. 381).³

85. **KILDONNELL** (22).—Same. So D.S. (B.) 21; and Civil Survey, p. 4, and castle shown. But it was in Monasteranengah, in 1591 (Fiants), no remains.

86. **MONASTERANENAGH** (31).—Parish in Pubblebrian and Cosh-

R.S.A.I., vol. xxiv., p. 74. Copper coins were also found. I was told about 1874 by an old man, Mortough MacMahon, that a great battle had taken place there long ago between the Danes and Brian Boru.

¹ Killanahan and Killeenoghty were separate townlands.

² This may be the stem of the Berkeley family traceable at Killeenoghty and Tory Hill (see Section 91), till the confiscation of 1651. (See Civil Survey and Down Survey). The Berkeleys, of Askeaton, only settled there temp. Eliz.

³ Ballycahane Church in 1784 was ruinous. There are terriers of 1698 and 1784 in the Limerick series. P.R.O.I., Nos. 1 and 2.

magh. It was the Cistercian Abbey of St. Maria de Magio, Maige, May, Mayo, or Nenay. The Aonach Cairbre, 902, of the "Book of Rights." The abbey was founded by King Torlough O'Brien, 1148-51, who vowed it in a fierce battle with the Danes on its site. It was a daughter of Mellifont. The charter of John, when Earl of Mortain, in 1185, was confirmed by him, as king, in 1200 (C.S.P.I., vol. i., No. 136). It granted to the abbey the church sites of Killkillin, Cathircornii, Camus, Grange, Chillconill, Imleach-Dregingi, Cillnarath, Ceallmeccerill, Ifedomair, Ceallseanig, Tulachbraci, Ceallcrumtirlapan, Cealladleach, and other lands, granges, and church sites, out to Darach-muchua; the abbey site was at Kinelmekin. The abbot had a seat in Parliament. Two fierce battles were fought near it, one in 1369, when Brian "of the battle of Nenagh," King of Thomond, defeated and captured Garrett, Earl of Desmond, the other in 1579, when Sir N. Malbie defeated John of Desmond, slew the monks, and destroyed the abbey. Numerous records remain during the thirteenth,¹ fourteenth,² and sixteenth centuries; none of the fifteenth. It was granted to Sir H. Wallop, 1585. *Maniptirpanaona* (A.F.M., 1502), or *Clonacbea*, "Magio," from the Commoge River, not the Maigne, as usually stated. *Fabric*—The church, chapter-house, and foundations of the cloister and domicile remain, with a small building near the river. It had a fine vaulted chancel 27 feet square, with a lofty three-light window, which, with the roof, collapsed about 1874; the tower near the west end having fallen in 1806. The nave was 90 feet by 27 feet; the ritual choir, 54 feet long, once formed a part. The screen wall has a trefoil-headed window, and a low door; the side arcades are plain, and pointed; the lights of the clerestory and two west windows are round-headed; the capitals of the arches of the chancel and transepts are rich, but the side-wings are nearly gone. *Descriptions*—Fitzgerald, vol. i., p. 327: his description is erroneous, and shows but little knowledge of church architecture. R. R. Brash, "Eccles. Architecture of Ireland," p. 137. R.S.A.I., vol. xix., p. 232, by T. J. Westropp.³

¹ Black Book of Limerick; Calendars of Documents, &c., &c. *Revue Celtique*, vol. vi., p. 83, gives a charter of Donatus Karbreach (O'Brien), Rex Tuadmonei, giving two marks to Magio (witnessed by Bishop Hubert), c. 1220-40, and one of his successor, C. O'Brien, witnessed by T. de Magio.

² Fitzgerald, vol. i., p. 404, cites the "Annals of Monasternenagh" for events in 1353. I cannot trace this book.

³ See plan, on Plate XVII., and views, Plate XI.

87. **KNOCKNAGRANSHY** (22).—In same. One of the granges named in the charter of 1185. Henry Hammond and Alex. de Rupe fought at "Nywegraunge, near the Abbey of Magio," in 1319. The latter gave two wounds, and received three from Henry, who fell dead on the spot. Thereupon Henry's "alumnus" struck Roche dead with a lance. It was found that all three were felons, and their lands forfeit to the Crown (Plea R., xii Ed. II., m. 54). Cnocknegranshye, 1584 (O'Brien's Inq.). *Fabric*—A ruined church and a well, called Toberlaughten, remain.

88. **CREAN** (31).—Same. Chapel of Cran, given with Magio, 1410. *Site*—A burial-place at Crean, to south-west of Manister.

89. **KILCURLY** (22).—Same. Ceall mac Cerill, given to Magio, 1185–1200. Kilkerely, held by Magio at the dissolution, 1540 (King, p. 344); Kilkirily, 1655 (Civil Survey, p. 4). *Site*—Forgotten in the townland.

90. **CROOM** (30).—A parish in Coshmagh and Pubblebrian. Cromadh, chief seat of the Ui Cairbre Aobhdha, burned by Torlough O'Connor, 1151 (A.F.M.); Crumech Castle and lands, held by Maurice Fitzgerald, 1215 (Pat. R. England, xvii John); Cromuch, and Cromych Church, 1291; Crometh, 1302. The lands were the portion of Basilia Thursteyn, 1323 (Plea R. 147 of xvii Ed. II., m. 4). John Route was parson of Cromut, 1376 (Mem. R.); Thomas Hunter was rector, 1408 (Pat. R.); Thady O'Muleran (Mulrian), 1550; Irwen (or William) Hurley, 1551 (Lib. M. H. ii., pp. 97, 9, 8); Donald Kean, or Rean (Mulrian), rector of Cromye, vacant by death of Thady Kean, or Rean, and late usurped by William O'Hurnley, 1552 (Fiant 1159); Cromothe, 1581.¹ *Site*—The I. C. church is on the old site. Map. D.S. (B.), p. 24, 1657.

91. **DRUMASSELL, OR TORY HILL** (22).—Same. There were two forts here in 902, Maghnasail, and Asail² (Book of Rights). Juliana Fitzgerald and Henry Berkeley claimed land at Drumassell, 1289 and 1311 (Plea R. 14 of xviii Ed. I., and v Ed. II.); Capella de Drumassyll, spect ad Cromothe, 1418, being given separate from

¹ Kilderry, in Croom parish, is probably a "wood," not a "church."

² Asal was brother of the great fort-builders of Aran and Clare. See "Dindsenchas," *Revue Celtique*, xv., 1894, p. 481. The "Colloquy of the Ancients," Silva Gadelica, vol. ii., p. 201, also alludes to the Drum (ridge) of Asal mac Umor. A fine, though broken, "diadem" of gold was found near Tory Hill, 1856. See R.I.A. Catalogue of Antiquities of Gold (W. R. Wilde), p. 24.

Kileenoghty, with which Reeves, however, identifies it. Cnockgromassill, 1584 (O'Brien's Inq.). The castle and chapel stood in repair to the south-west of Cnockgromassell, 1657 (D.S. (A) 21, (B) 24). *Fabric*—I found what seemed a rude and featureless oblong ivied church there in 1876 and 1881, but made no notes or sketches; it is not marked on the O. S. maps of 1840 and 1900.

92. CAHERASS (21).—In same. About 1251 John Flandrens made quit claim to Dysert Enegus, and Cathyrasse, and in 1256 Bishop Robert leased the latter, with its fishery, also in 1272 (B.B.L. No. xlvii., lxi.); Chapel of Say, *alias* Cathiorassa, 1410; Cap. Say, in rect. de Cromoth, 1418; Carassie, 1601; Capella Say, 1615 *a*. Reeves, however, identifies it with Dunkepechy.¹ The chapel was closed after its desecration by the suicide in it of its chaplain (Fitzgerald, i., p. 332). *Fabric*—The ivied walls stand on the bank of the Maigue, thickly overgrown.

93. DUNNAMAN (12).—Same. In Coshmagh. John Maunsell held Cresdire,² Kilgubban, Drastenagh, and Caheras, 1298 (Plea R. 40 of xxvii Ed. I., m. 106, and 44 of same, m. 10); Dunnemeaunn, Rustainy, or Ballythristan, 1410; Ecc. Ville Trostanii, 1418; Dunningmeaunn, 1562 (A.F.M.). The name is derived from the Thurstan, or Trostan, family: see Croom, 1323. *Fabric*—"Teampul na Trionoid," locally, has a nave and chancel 43 feet by 21 feet, and 23 feet by 16 feet, of rough masonry, with segmental-arched doors in the sides. The chancel arch is pointed, corbels for a gallery at west end of nave. The windows have round-headed splays and pointed lights. There is a sheelanagig set in the neighbouring castle. *Description*—"Memorials of Adare," p. 203.

94. DUNKIP (31).—Same. Dunkepechy Church belonged to Cromyth. 1291. Downekip, in Cosmaye, 1586 (C.S.P.I., 238); Downchippe, 1586 (Peyton, p. 233), granted to Col. H. St. Leger, July, 1667 (Act. Sett. xix Car. II., x. d.). O'Donovan identifies it with Duncáiceo 1088-1090 (A.F.M.). *Site*—Now forgotten in the townland.

95. DOLLAS (31).—Same. Dolla, or Doilath, 1410, cap. Dolyth, in rect. de Cromothe, 1418; Dolun, in Croom, 1615 *a*.; Dolith, 1615; Chapel of Dolla, 1615 *b*. Dologh (D.S. (A)., No. 49), in 1657, shows the ruined church in the townland. The "Tripartite Life," p. 203,

¹ MSS. 1063, T.C.D., p. 99.

² Cresdire was in the Manor of Mahoonagh in 1287. (C.S.P.I., vol. iii., p. 205).

tells how a chief, Dola, opposed St. Patrick when building Grene Church; but the saint drove him to Dalmodo, or Dollas, in Airthier Cliach. *Site*—Now forgotten in the townland.

96. **CLOONANNA** (12).—Same, in a detached portion. An ancient parish in Pubblebrian, now merged. Clonany, 1291. John Purcel claimed dower on Clonany Hyrtherag, 1318 (Plea R. 123 of xi Ed. II., m. 4); Clunainanny, 1418; Clunany, in Croom, 1615 A.; Cluonnanna, a parish, 1655 (D.S. (B.), 27; Civil Survey, p. 34); Clounana Temple granted to W. Barker, 1667 (Act. Sett.). *Fabric*—The west end, and much of the sides, remained in 1875. I am told that much has been since levelled.

97. **ANHID** (30).—A Parish and Prebend in Coshmagh. Atnid, 1201; Athnyde, 1291, 1302, and 1418; license to John f. Richard, of Athnyd, to cross the sea, 1297 (C.S.P.I., vol. iv., No. 461); Athneady, or Adneady, 1306 (Plea R. 31 of xxv Ed. I.). *Fabric*—Some ired fragments of walls stood in 1875. The west end alone appears on the new maps; near it is Toberregan well.

98. **DYSERT AENGUS** (30).—A Parish and Prebend. In 1083, Conn, son of Maelpatric, erenagh of Mungairit and Disert Oenghusa, died (A.F.M.). Robert, Abbot of Magio, granted lands about the white stone cross of Limerick city to the prebendal church of Disert Engus (c. 1230–40 (B.B.L., No. lxxviii). Disert Engus, c. 1251: see under Caherass (92), Disert, 1302. In 1358, David Dencourt, Dr. of Laws, of Imelac, was made canon and prebend of Dysert, void by promotion of Dean Stephen de Valle (Cal. Papal Letters, i., pp. 307, 327; and Theiner, Vet. Mon. Hib., p. 339); Prebend of Dissert Engussa, 1418. It was wrongly identified by O'Donovan with Disert Muirdeabhraigh, or Morgans¹ (*infra*, 132), *q.v.* Dr. Reeves first set the identification at rest. St. Oenghus, the Culdee, lived 780–815. *Fabric*—The church and round tower remain in Carrigeen townland, and were in 1827 surrounded by a strong, square cashel (Fitzgerald, i., p. 332). The church is 54 feet by 18 feet; the walls 3½ feet, part of south wall and the broken door being very massive and old, the door having a flat band round its outer face. The east gable is late (Dunraven says the reverse); the west had a window, but fell, and was rebuilt by Mr. Luke Christy before 1869. The head of a late fifteenth-century window

¹ O'Donovan, O.S.L., 9, p. 189. Dysert Engus and Ballyhoregna are usually named together (e.g., B.B.L.); and in the Limerick Terriers, 1698 and 1805 (44, 45), the latter deeds unmistakably refer to Carrigeen.

was found. The tower is finely built on a rock ; it is 54 feet in diameter at base, and 65½ feet high, with five storeys. The door has a round head, with mouldings and pellets. The existing windows are, respectively, the west in third storey, head—angular outside, flat inside; south in fourth storey, round outer head, flat inner; north-east window in top storey square and short.¹ The legendary name and story are "Cloice Dysert," or Clogas na Dysert, and that the tower grew in one night. It is shown as perfect, "Desert and Carrigeene, a steeple, or watch tower," in 1657 (O.S.A., 42 and 49; Petty, 72). *Description*—Fitzgerald, i., p. 332; R.S.A.I., vol. i., ser. iii., 1868, p. 56, R. Brash: "Memorials of Adare," p. 212; Dunraven, "Notes," vol. ii., p. 22, and Plates lxxvii. and lxxviii.

99. **DREHIDTARSNA**² (21).—A parish in Coshmagh and Upper Connello. Drochetarsna, 1201. G. de Mareys did homage to Bishop Hubert for Drethenarsna, or Drethenetarsna, 1223 (B.B.L., xxiii.); Drohidarsna, 1418; Drehidarsna, 1615 A. *Site*—The I. C. church is on the old site.

100. **KILDIMO** (12).—A parish in Kenry. Diomma (son of Cass, king of Munster), c. 450, was of Cill Dioma, in Caenraighe, May 12th, c. 480. Kelldima, 1201; Kildyme, 1302. In 1358 David Dencourt held Kildim perpetual vicarage, which, on his death, 1363, was granted to John Pastyn, a poor priest (Cal. Papal Petitions, iii., pp. 329, 398); Kildyma, 1418; Kyldymma in Kenryhurragh, 1586 (Peyton, p. 217); Kildimo, with Killecollum, Kilcurrely, Killasuragh, and Killenarrige, in Kenry, granted 1666 (Act. Sett.), Map D.S. (B), 16. *Site*—Modern I. C. church on the old site.

101. **CULLAM** (12).—Same. Kelldacolum, 1201; Kildacolum and Kildimo churches assigned to the Archdeaconry, 1204; Ecc. Kyldacolum, with Kyldyma, 1418. It is identified with Ballicahane by Reeves, but Petty shows it at Killacolum, or Cullam Castle, on the Maigue, 1657 (D.S. (B), 16; and Petty, 70). *Site*—Forgotten in the townland.

102. **KILLULTA** (123).—Same. An ancient parish, perhaps Kyltuly, in deed of G de Mareys, 1228 (B.B.L., xxiii.). Glanmithithig, 1410. Gleande church, 1418 and 1657 (D.S. (B), 16). Pococke calls it, in

¹ See views, Plate X.

² Dr. Reeves identifies it with Clonbalitarsna (B.B.L., p. 8), but there were other compounds in the Limerick place-names, such as Dromtarsna, near Temple Glantan (Peyton, p. 124).

1752, Killallatring (Tour, p. 114); Lewis, Killenalotar (vol. i., p. 321); Fitzgerald, Killenalutter, i., p. 350. *Fabric*—It lies in Glenna Meade, and is an exceptionally ancient oratory on a bold rock. It is 16 feet by 9 feet 10 inches, the walls 2 feet 8 inches of large blocks; the east end entire, its window with an angular head;¹ Pococke compares it with the round towers, and considers it one of the oldest churches in Ireland; Fitzgerald describes its west door as "Gothic," but that end fell, and has been roughly rebuilt. Near it is Tobermurry well (O.S.L., 9, p. 61).

103. **KILMORINE, OR KILMORIKE.**—A townland at the south-west angle of Kildimo parish, 1657 (D. S. (B.), 16). Kilmurreena, in Kenry, 1666 (Act Sett.). *Site*—Unknown.

104. **ARDCANNY (11).**—A parish and prebend. Ardcattini, 1201; Ardchatin, 1204; Ardatny, 1291; Ardcahny, 1302 and 1418, being then prebendal. Ardcanny, in Kenryhurragh (Peyton, p. 216). Ard Cana, 'Hill of Cana' (O'Donovan); but Ardcanny, in Kerry, was *Arbunacaitne*, "Arbutus Hill."² *Fabric*—A late church, locally Templeamhullain, from the townland of Mellon or Maeleen. It was roofed in 1838. St. Bridget's well is half a mile to the west (O.S.L., 8, p. 5).

105. **KILLASHEE, OR KILLASHURA.**—Three townlands along the western edge of Ardcanny, 1657 (D. S. (B.), 19; Petty, 70). Pardon to the inhabitants of Killesuragh, Kildimo, and Pallis, 1586 (Fiant, 4935). *Site*—Unknown.

106. **CHAPEL RUSSELL (11).**—A parish. Formerly part of Killenalotar. "Cap. Russell spect. ad Com. Kildare," 1418; Capella Russell, 1615. It is, however, stated to have been only made a parish by Bishop Elrington. *Site*—Modern I.C. church on site; a gold fibula was found near it in 1834.

107. **KILCORNAN (11).**—A parish. Kellchurnan, 1201. Enfeoffed to Bishop Hubert, c. 1240 (B.B.L., p. 132), 1291-1302. Gleande and Monehury churches are called Kilcurnan, 1418. W. Casey, its rector, made bishop at request of James, Earl of Desmond, 1551. Tirrylagh

¹ See view, Plate X.

² R.S.A.I., xxi., p. 689. The arbutus was, however, "Quin," or Whinny (cuníce), in Clare; and Miss Hickson points out that Ardnacconia, the pronunciation given by Mr. W. M. Hennessy and Dr. Joyce, was only used by those who read the works of the latter. No doubt, Caherquin, near Ardcanny, in Kerry, suggests the arbutus.

MacBrene, its chaplain, got English liberty same year (Fiant, 881). Its rector, Maurice f. Gerald, pardoned, 1552 (*Ib.*, 961). Churnanbeg was of Cilchurnain in Caenraighe, Jan. 6 ("Martyrology of Donegal," pp. 9, 393). *Site*—It was in repair, 1657 (D.S. (B.), 17; Petty, 70), on the site now occupied by the modern I. C. church.¹

108. KILBREEDY (11).—Same. Kyllbryde, in Kenryhurragh, 1586 (Peyton, p. 221).

109. KILLEEN COWPARK (12).—Same. This, as we have seen, is not the ancient church of Kilcornan, as stated by Sir Aubrey de Vere in the description below cited. It is well preserved, 45 feet by 24 feet. The south door is pointed, the north door closed. It has narrow windows in the sides and east end, and a bell ope on the west gable. *Description*—By Mr. Taylor, of Hollypark, published in O'Hanlon's "Lives of the Irish Saints," vol. i., pp. 82, 83.

110. MORNANE (11).—In same. Perhaps the last named. Perhaps Mayrine, 1237 (B.B.L., No. li.); but see section 214, *infra*. Moyhinan, 1291; Mowryn, 1302; Managhurine,² 1410; Monehury, between Kilulta and Chapel Russell, 1418; Mournan, in Kenrymoore, 1586 (Peyton, p. 222); Morean, 1657 (D.S. (B.), 16; Petty, 70). *Site*—A "Killeen" remained in 1657, but is now forgotten.

111. IVERUSS, OR BEAGH (3).—A parish in Kenry. 1237, Orosse was restored to Bishop Hubert by the Abbey of Keynsham, with Mayrine (probably Mornane), (see B.B.L., No. li.); 1268, W. and Gunnora de Lenton had a suit with Keynsham about Oros and the advowson of Iniskefty (Plea R., lvi Hen. I., m. 8); 1295, Gerald and Anastas Stakepol held Rossogh, in Kenry, and it passed to Ric. and Lucia Stakepul in 1299 (Plea R. 24 of xxiv Ed. I., m. 4; 36 of xxvi, m. 11; and 24 of xxvii., m. 4 d.); 1317, Philip and Juliana de Loundres claimed dower from W. Mancel off Oros (Mem. R., xi Ed. II., m. 42); 1325, Maur. de Prendergast claimed presentation to Rossagh Church as in reign of Ed. I., when Thomas mac Martyn, cleric, was presented (Plea R. 153 of xix Ed. II., m. 17, and 14 of same); Egalassorosse vocat Aglass Rossa, and Yeaghrossa, in parish of Kyllcurnane; 1586 (Peyton, pp. 188 and 225), English O'Rossye, possession of late Abbey

¹ In a terrier of 1785 we find Kilcornan rectory, "The church which is now finishing is lately built, partly by assessment, partly by donation of John T. Waller." P.R.O.I., No. 38. There is a map of the same, 1806, No. 37.

² Given separately from the "Chapel of Moirgrean, on the west of the river Maigue," 1410, belonging to de Magio.

of Keynsham granted to Sir R. Boyle, 1603 (Pat. R.).¹ It is named from the Tuath Ui Rosa, or Ui Beagha, ablative plural *Uibhpora* (O'Donovan). *Fabric*—It is 57 feet by 22 feet; the east window has two ogee lights; the south, one, with a flat splay. The south door is pointed, and the north and west walls featureless (O.S.L., 8, p. 1).²

112. CHAPEL OF ST. MERANUS, given after Mornane, 1410, might be Killeen-Cowpark. (See Appendix.)

113–115. KILKELBEG AND KILCREMIA “benefices,” named with Kyltuly, Drehid tarsna, and Kylcohan (Cloonana) in deed of G. de Mareys, 1223 (B.B.L., xxiii.); Kilscoly and Kilsceibeg, ecclesiastical benefices named with Kilgoban in the “Collation” of Bishop Hubert, c. 1240 (*Ib.*, lxvii.). Kilsceibeg is evidently Kilkelbeg, and Kilscoly probably Kyltuly. The sites are unknown, unless Kyltuly be Killulta. They evidently lay in Kenry, near Adare, Kilgobbin, and Cloonana.

116. KILCULGIN, named with Iniskefty church and Oros, 1268 (Plea R., liii Hen. III., m. 8).

DEANERY OF RATHKEALE.

Rathkeale Deanery covers the more important part of Ui Chonaill, Lower Connello, and Shanid, with part of the Ui Fidgeinte lands. As regards these tribes, material is abundant for their history, and a monograph very desirable. In the “Book of Rights” we learn that the King of Ui Chonaill Gabhra had ten shields, steeds, swords, and horns “in his protective dun.” He was also given an “Easter dress,” with more swords and spears; no hostages were asked from him, only that he should swear “by the hand of the King of Cashel”; the latter claimed the forts of Geibhtine, or Askeaton, and Rath Guala, or Rathkeale—such was the rule in the ninth century. The deanery, as usual, takes its name from the chief town and castle.³

117. RATHKEALE (28).—A parish⁴ in Lower Connello. Rathguala fort is named in the “Book of Rights,” *ante* 900, but not in the “Annals” of 622, that being Rathgale, near Donaghadee. Rathgel was held by Keynsham Abbey, 1223 (B.B.L., p. 75). Its church was

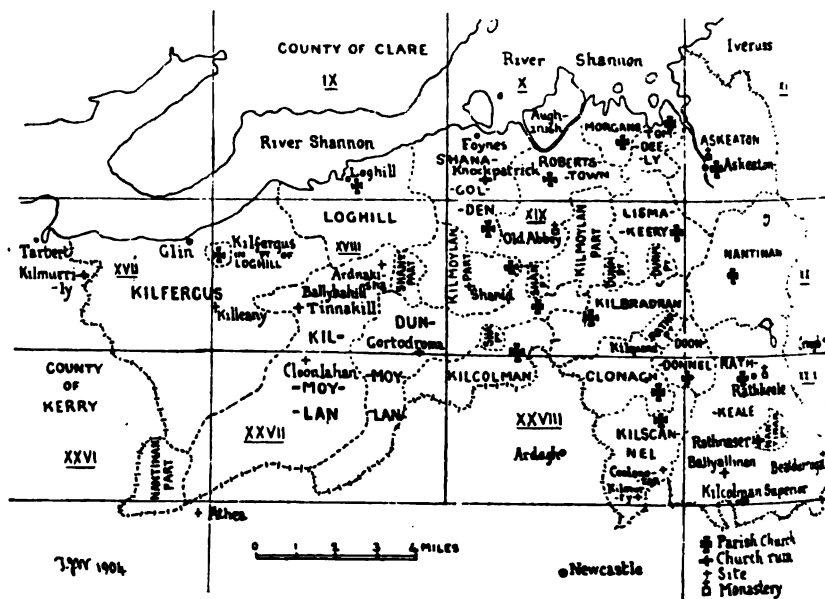
¹ Haverossy and Navarossy, Trustee Maps of Limerick, 1688 (No. 36).

² See view, Plate XIII.

³ “Book of Rights,” pp. 67, 71, 77, 259.

⁴ Toghe Farrenseaseragh covered Rathkeale and Clonagh parishes (Peyton, p. 107). Toghe Olybane covered parts of Rathkeale and Kilcolman parishes *Ib.*, pp. 66–70).

granted to Limerick by Roger Waspayl, 1228 (B.B.L., p. 74), who got free warren of Radguel, June, 1252 (C.S.P.I., vol. ii., No. 55). Rathgaul was re-granted to Keynsham by Hen. Waspayl, 1287 (B.B.L., p. 74), but was resigned (p. 75). He granted it to John Maltrovers, 1280 (C.S.P.I., 1778). A later J. Maltrovers held it, on his death, in 1369, when an Inquisition found Rathgyell to be part of Iniskeffy Manor. John Arundell held it as heir of Maltrovers in 1380 (Mem. B., m. 28, 155), when it was seized by the Crown. The church was



Deanery of Rathkeale.

robbed by A. Keating, 1318 (Plea R. 123 of xi Ed. II., m. 34), and was dedicated to the Trinity, *ante* 1410; Rathgell, 1418; Rathgele, 1452 (Rental) Rathgaela 1487 (A.F.M.). The place was burned by Malbie, 1579. Temple Treencode parish, *infra*, Vill de Rathkealy, in Toghe Olybane, 1586 (Peyton, p. 253); Rachell, or Rochell, 1615. *Site*—The I. C. church is on the old site. It has a monument of Sir Thomas Southwell, 1676.¹

¹ P.M.D., vol. ii., p. 160. Limerick Terriers, 1785 (46), P.R.O.I.

118. **ST. MARY'S PRIORY, Rathkeale (28).**—It is said to have been founded "about 1200" by Elinor Purcell (others say by Harvey, in 1280), for Arosians. In 1290, there was a lawsuit between Thomas le Chapeleyn, guardian of the House of St. Senan, Iniscatheg, and Benedict, prior of St. Mary's, Rathkeale (Plea R., xix Ed. I., p. 53). In 1307 Eleanor Purcell granted it for ever, every tenth loaf, flagon, pig, and sheep, and on her Manor of Mayen. Hugh, her son, was sued for these, but contested his mother's power to grant same, and compromised for two cronocs of wheat, three of oats, and four pigs (Plea R., 1307; Cal., p. 205). William was Dean of Rathgul, 1250 (B.B.L., xxix.); Thomas Purcel was prior, 1318 (Plea R. 116 of xi Ed. II., m. 46), and accused of violence at Moycro that year; its goods were worth 101 marks, 1410, "Mem. of Adare," p. 95). The priory was held by Gerot Baluff, at the time of Desmond's rebellion, in which he was slain (Inq., xxvii Eliz.), and was granted to Sir H. Wallop. It is marked as Abbe-rathekallein, 1589 (Hardiman, map 56). In 1586 its possessions were Castell an Can ne Monastery; Garran ne Narr, or the Men's Garden; Garran ne Pryore, Cloneralin, Curradaffe, Necogleyn, Bancagh, Spydell, Drumrannane, Canana, and Ffarren ne Ganana, in Nantinan, about 60 acres (Peyton, p. 263). It was held by Lieut. Pigott, 1657 (D. S. (B.), 13). *Fabric*—The church measures 100 feet by 23½ feet, with a broken square tower to the west, much of which fell in the winter of 1878. The north walls of the church and tower have fallen. The east window has three shafts interlacing, set in an older three-light window. The side wall is 24 feet high, and 3½ feet thick, and has five windows. There was an older tower to the side, and 20 feet square. *Description*—G. Hewson in R.S.A.I., xv., 1879, p. 86.

119. Probably a hospital stood on the "Spitel Land."

120. **BEALDURROGA (19).**—Same. A burial-place.

121. **KILQUANE (19).**—Same. Near Riddlestown, or Ballinriddele, Kylcuwan, in Offargus, 1452 (rental), Kyllcohan, in Rathkeale, in Togh of Ffarrensesseragh, 1586 (Peyton, p. 107). W. Trenchard held Kilcoan, Corgraig, High and Low Shannid, and Kilkosgran (Excheq. Inq. 41, xxxvi Eliz.).¹ *Site*—Forgotten in the townland.

122. **BALLYALLINAN, OR TEMPLEBEINID (29).**—Same. Ballyellynna,

¹ Fiant 5781 names Killcomoden, Rathmacandan, Killcohan, and Reyan, as lately held by David Encorrig, 1591.

1452; (Rental), probably Benedict's chapel; Capella Mineta, 1410, 1418, 1615 n.; Ballyalynan, 1600; (Fiant, 6464 and 6487) granted with Dourlas to Robert Dawges, 1670 (Act Sett.). *Fabric*—The church of St. Beinid lies to the east of the castle. The east gable, 11 feet wide, with about 14 feet of the sides, remained in 1840. The window had a wide, round-arched splay of cut stone; the sides were 9 feet high and $2\frac{1}{4}$ feet thick. St. Beinid's well (not "Bernard's," as on map) lay near it (O.S.L., 8, p. 182, by T. O'Connor).

123. KILCOLMAN SUPERIOR (29).—Same. A merged parish. Kilcolman Superior, 1302; Cap. Kilcolman Superior in Rathgell, 1418. *Fabric*—A side wall of rough stones, 12 feet long and 9 feet high, stood in 1840.

124. NANTINAN (20).—A parish. In 1267 Bishop Robert and John de Interberg agreed about the presentation to Nentan Church (B.B.L., x.); Nantenan, 1302; Neantenan dedicated to St. James the Apostle (25th July), 1410; Neantancan, nettle-bed (O'Donovan). *Site*—The I. C. church built on its site about 1800; rebuilt 1817. St. James's Well near it.

125. RATHNASER (29).—Same, but isolated in Rathkeale. A merged parish. Rathnaseir, 1201–1204. Roger Waspayl granted lands between Rathgel and the great water of Del to Matthew, parson of Rathnesser, c. 1220 (B.B.L., p. 805); Rathnaser in termino Cragg, 1336; (Rental) Eccl. et capel pcentoris, 1418; Rathnasaor Cap., 1410; Banasier, 1601; (Fiant, 6487). *Fabric*—An early church of well-dressed gritstone, with nave and chancel, 37 feet by $23\frac{1}{4}$ feet and 19 feet by $16\frac{1}{4}$ feet. The west end is down; the east and south windows have round splay arches, each head being cut out of one stone, and the choir arch has fallen (O.S.L. 8, p. 180, T. O'Connor).

126. ASKEATON, OR INISKEFTY (10). A parish in Connello Lower. The fort of Gephthine, ante 900 (Book of Rights). Easgephthine Castle built 1199 (Ann. Innisfallen). Inniase(fty) church, near Tomdeely, 1201. Records are very numerous (R.S.A.I., xxxiii., pp. 25, 153, 239) under the names of Iniskifty, Iniskesty, Hinkesny, Hincsesy, Imkesti, Innesci, Ynyskyfty, Hinksti, &c. Bishop Hubert granted the church to Keynsham, c. 1223 (B.B.L., li.). The heirs of Ric. de Clare held it, 1319 (Plea Rolls); Maurice Earl of Desmond held it, 1349 (Close R.), and his descendants made it their chief residence. The church is named Ynyskyftyn, 1302; Asketten, or Ascetyn, 1410; Inskefti, 1418; Athesketin, 1551 (Fiant, 961); Enniasketten, 1591 (Valor). *Fabric*—The church is alleged to have been built by

the Templars, 1291. The belfry is square below and octagonal above; the east end of the chancel is standing. There was in 1834 a transept, or aisle, opening out of the church by two arches. Monuments and burial-places of the Taylors, of Ballynort and Hollypark, 1728; Westropp's, of Ballysteen, 1741; Hewsons; Rose, 1755, &c. *Description*—R.S.A.I., xxxiii., pp. 239, &c.; xxxiv., p. 111. T. J. Westropp; "Limerick Field Club Journal," vol. ii. Sir Francis Berkeley, of Askeston, by same.

127. THE ROCK ABBEY, OR FRANCISCAN HOUSE (10).—Same. Founded 1380 (Wadding) to 1420 (A.F.M.), but before 1410; burned by Malbie, 1579; Friars returned 1627. Guardians were appointed till 1872. *Fabric*—The ruins are extensive and interesting among crags on the east bank of the Deel. They consist of a church, 118½ feet by 23 feet, with sedilia and windows with interlacing shafts; a transept with an aisle. A beautiful arcaded cloister, 51½ feet square, and various domestic buildings, mostly vaulted. *Monuments*—Several slabs, with Calvary crosses, remains of canopied tomb of James, Earl of Desmond, 1459; destroyed by Malbie, 1579. Tomb of the Stephensons, 1642; of the Nash family, 1711. *Description*—T. J. Westropp, R.S.A.I., xxxiii., pp. 239, &c.; xxxiv., p. 111.¹

128. CHAPEL OF THE CASTLE (10).—The remains are at the south end of the great hall. Only the defaced east window and part of the side wall remain over a broken vault.

129. LISMAKEERY (19).—A parish. Lismaceyre, 1302; Lismakiry, 1410; Lysmacdyrrye, 1591 (valor) was held by Keynsham, and as such granted to Sir R. Boyle, 1603 (Patent R.). In good repair, 1615; named from the Mackeery's earthen fort. *Fabric*—A fifteenth-century church, 59 feet by 22½ feet. The east window is defaced, but has flat splay arch. The west end has a small belfry and window. The north wall has a pointed door and two windows with flat splays, and trefoil heads face each other in the sides near the east gate. The walls are of limestone 12 feet by 3 feet, with well-cut coigns.

130. TOMDEELY, OR DROMDEELY (10).—A parish. Tonndaily, 1201; Drumdell and "Orundell," granted by Hen. Mineter to Bishop Hubert, c. 1223 (B. B. L., xl.). The lands were granted to Margery, widow of Tyrry de Kardyff, 1251 (*Ib.* xix.). It was the Bishop's manor, 1252 (*Ib.* xviii) and 1336 (rental); Drimdel, 1281 (Pipe Roll, 13); Arundel,

¹ Plate XVI. for Plan.

1302; Dromdily, or Dromdelthy, 1410; Drumdyll, in Ardacha, and Drumdele, in Rathgell, 1336, 1420 (rentals); Dromdelie, 1615 s. In 1840 it was locally Tom-dhaioile, the bush (not mound or ridge) of the Deel (O'Donovan). *Fabric*—The church is late fifteenth-century with a nave and chancel 34 feet by 24 feet, and 21 feet by 15½ feet. The sides, 10 and 12½ feet high; all the features are defaced; the chancel arch has fallen, and the graveyard is desecrated and tilled (O. S. L., 9, p. 443). A group of pillar-stones stand near Knockeegan fort, near the mouth of the Deel, perhaps at the "Tom." or tumulus of the place-name.

131. KYLLACHTYN.—Given with Ardacha manor, Dromdyle, and Dissert Marrgeoin in 1336 (rental), perhaps Kellalathna, 1201; if the latter is not Killulta, as its proximity to the names of Kildimo and Kilcornan may rather imply. Probably Killaghteen in Ardagh.

132. MORGANS, OR DYSEET (10).—A parish. *Díseart Múrdubair* in *Ui Chonaill Gabrai* (Mart. Doneg., 3 Nov., Cal. Oenghus). *Disert* Murdewar, 1201; *Disert* Mardun, 1302; *Dissert* Margeoin, 1336 (rental); *Disert* Mereogein, Muriogan, or Morgans, 1410; *Morheim*, 1591 (valor); *Disert* Meregin, 1615; *Crag* desert Morogan, 1645. It was first identified as *Diseart* Murdebair by Dr. Reeves. O'Donovan, who wrongly identified the latter with *Dysert* Aenghus, near Croom, gives *Murpgeabain*, 'a maritime spot,' for Morgans. The church was locally *Temple Muireguidan*, and had been "founded by Templars," and rebuilt by the Franciscans of Askeaton, 1498 (Lewis, ii., p. 392). *Fabric*—A late fifteenth-century church, 49 feet 9 inches by 21 feet 7 inches inside. The walls 11½ feet by 3 feet. The east and west gables are removed; the east window is small and defaced; the north door is defaced; the south door round-headed; both have flat splay arches. The south window is defaced; the north ivied (O. S. L., 9, p. 446, J. O'Donovan).

133. ROBERTSTOWN (10).—A parish in Shanid. *Capell Roberti Guer*, 1291; *Castell Rob de Gore*, or *Gauyr*, and *Capell Robti Gore*, 1410. *Castri Robti Goer*, 1452 (rental). The prioress of St. Catherine (Old Abbey, see 134) failed to present Norman fitz Richard to this church, 1306. The prioress of St. Kathine de Okonyl has presentation to the vicarage of Roberdes Castel Goer chapel, 1318 (Plea. R. 119 of xi Ed. II., m. 18). Ballyrobert inappropriate to crown in right of Monastery of Negelagh, 1584 (Desmond Roll). It was probably founded by the earlier Robert de Guer, who lived 1201-1220. The later Robert Guer was living 1290-1310; each was contemporary of a

Robert Dundonell; the earlier of these founded Castle Robert Dundonill church. *Fabric*—A late church, 37 feet by 19½ feet; the windows defaced; pointed doors in each of the side walls, which are 14 feet high (O. S. L., 8, p. 11).

134. OLD ABBEY, OR MANISTERNAGALLIAGH (19).—Same. In 1298 the Inquisition of Thomas f. Maurice mentions lands granted by his grandfather (Thomas, slain 1261), to "the nuns of O'Konyll" (C.S.P.I., vol. iv., p. 259). The convent probably dates *c.* 1240. "The house of St. Katherine, in Oconyl", 1291; "the monastery of the prioress of Oconyl," 1302. The prioress of Oconyl had a suit with Maur. f. Philip for trespass and other injury, 1296 (Mem. R., xxv Ed. I.; Ferguson, Cal. i., pp. 83, 84). There are many other records, and grants subsequent to its dissolution abound. It formed a parish, 1586 (Desmond Roll and Peyton), as Monasternegeallach, and appears in Jobson's map, 1589. These entries, and the lack of any evidence connecting it with Lough Gur, correct the mistakes of Ware, Archdall, and Lenihan. It, Kilmolane, and the rectories of Robertstown, Down-Moylin, and Granshane (New Grange), with the Isle of Aghnissie, were held by Sir J. Jephson, as son-in-law of Sir T. Norreys (Inq., Aug. 1613). *Fabric*—A long, narrow church, of earlier thirteenth century, 83 feet by 18½ feet, with handsome door, and other details of the time; and an east window and north door of fifteenth century. A large cloister garth of 73 feet square; a domicile with three vaults to the west; a refectory and kitchen to the south; outer enclosure gates, pigeonry, fish-pond, &c., remain. *Description*—R.S.A.I., xxxiv. History by John Wardell, p. 41; description, plan, and views by T. J. Westropp, p. 53.¹

135. KNOCKPATRICK (10).—Same. Most probably, "Ardpatraic in Ui Chonaill Gabhra," burned by the Danes, 1114, and the place where Celsus, Archbishop of Armagh, died, 1127–9 (A.F.M., and Chron. Scotor.). Desert Alysboan² (or Clasboayn), 1336 (rental); St. Patrick of the mountain, 1410. Gerald f. Philip, rebel, held "dom. relig. voc. Taremon de Cnock Patrick in p'och de Robertstown," 1584 (Inq.). It is probably the height to the west of Donaghpatrick and Finnine, whence St. Patrick blessed Thomond, for the "islands and territories" of the latter, and Iniscatha, "the green island in the mouth of the sea,"

¹ See Plates XI. and XV., plan and view.

² Perhaps the Knocklaboskor super Sleoghier in the vill of Shanned, 1586 (Peyton, p. 99).

were visible, which is true of it, and not of the alleged eastern sites (see Trip. Life, vol. i., p. 207).¹ *Fabric*—The gables had fallen before 1840; the sides, 41 feet to south, and 46 feet to north, remained. In the latter were two doors, the west pointed and closed, the other broken and nearly demolished. The walls were 12 feet by 3 feet; the upper part rebuilt with corbels and cornice in fifteenth century; the south door has since fallen; part of a south window, the shaft of another, and parts of the pointed door remain. The Gothic west door stood in 1827 (Fitzgerald, p. 366). The monuments of the Burkes and Griffins, 1777 and 1798, stand to the west. This stands on a high hill overlooking the Shannon from Cratloe to the sea, and the plains of Clare and Limerick. Down the slope is "Suidheachan Phatruic" or "Patrick's seat," the remains of a small cist of six stones, evidently prehistoric, though this is denied (O.S.L., 8, p. 13). A relic "Mias Phadruig" was pledged to Roche of Limerick by "Mary (Neville) of the dish," its hereditary keeper, long before 1840.

136. *AVEHINISH* (10).—Same. Achinis chapel, 1410, Agnasse Insula in par de Monasterio Negaylah, 1586 (Peyton, 173); Athnes, 1589 (Jobson's map, MSS., T.C.D., 1209, No. 36). *Site*—Forgotten on the Island.

137. *SHANAGOLDEN*² (19).—A parish. In 968, Mahon, king of Munster, defeated the Norsemen of Limerick and Waterford "with red slaughter" at Sengualainn (Wars G. G., p. 9). Sengola, 1201; Schengle, 1302; Seanguala, 1336 and 1418; Seanghuolin, 1410; Shanagolan, 1615; Shanagoolings, 1633 (valor).³ The "old shoulder" of the hill where the village stands and the battle are traditionally remembered. *Fabric*—The chancel and nave, 29½ feet by 21 feet, and 48 feet by 25½ feet, of a thirteenth-century church remain. The east window was a handsome "transition" design, c. 1200. The nave has arcades, with four plain pointed arches to each side, and a curiously-fretted font. *Monuments*—A slab, with a decorated cross, 1545; Pierce Green, "killed by the tories," 1703; W. Enraght, 1781; John Morgan, of Dunmoylan, 1794.⁴

138. *ARDANEER* (10).—Same. Ardinuir, 1201; Ardynnryr, 1336 (rental); Ardinowyr, 1420 (rental). *Site*—Forgotten.

¹ See also "Life of Senan" in Book of Lismore (ed. Stokes), p. 202.

² The burgrave of Seanguala, 1336 (rental), had eleven tenants, of whom the majority are called Connatach and Connachtach, quite a "little Connaught."

³ There are terriers of Shanagolden, 1773 and 1801, P.R.O.I., 13 and 14.

⁴ P.M.D., vol. iv., p. 103. See plan on Plate XVIII.

139. LOGHILL (9).—A parish. Lemchaell, 1201; quit claim of John de Penris to Laukyll, 1274 (B.B.L., xlv); Roger Waspayl granted to John Maltravers the manors of Radghel and Kilcoleman, and Lochkyl, 1280 (Feet of Fines, Ed. I., No. 97, C.S.P.I., vol. ii., 1778). Lauwhull church destroyed in war, 1302; Leamkaill, 1336 and 1418; Loughill, 1615^A; Laughill, 1657 (D.S.(B.) 14). George Crofts grants Loghill to Mountiford Westropp, 1670 (Atkins Davis MSS., Ulster's Office, i., p. 108). The name means 'elm wood,' or perhaps 'marshmallow place' (see Joyce, "Irish Names," ii., p. 32). *Fabric*—An early church on the brink of a valley. Choir, 7 feet 10 inches by 9 feet 8 inches. Nave, 15 feet wide. Only fragments of east end, choir, arch, and south wall remain; the latter 8 feet by 3 feet, of large stones. St. Colman's Well to the north is good for sore eyes (O.S.L., 9, p. 160).

140. KILFERGUS¹ (18).—A parish in Shanid; the church is detached in Loghill: Killergussa, 1201; O'Fergus² church, in O'conyll, granted to the See by Adam Keyting, 1223 (B.B.L., xxxii.). Bishop Robert grants Kilmurly and Kilfergus to John le Persoun, 1254 (*Ib.*, xix.). John Brathnach grants them to the See, 1296 (*Ib.*, lvi). Kilfeargussa, 1418; Kilfarasye, 1586 (Peyton, p. 227); Kilfergusagh, 1615^A; Cíl Peupgapa, O'Donovan. *Fabric*—It stands near Glin, and is 42 feet by 22 feet; west and north walls are down; east window has a flat arch of flags inside, and has a rectangular light with inclined jambs. The south wall has a rectangular window and a defaced door of rude, hammered stones. Walls, 12 feet high by 3 feet, of small stones (O.S.L. 9, 147).

141. GLIN (17).—Same. Bishop Hubert confirmed the grant by Ric. de Londiniis of one ecclesiastical benefice at Glyncorbry in pure alms, c. 1230-40 (B.B.L., xxxix.); it may refer to the neighbouring Kilfergus.

142. KILLEANY (18).—Same. Kyllnyne, 1452 (rental). *Site*—Church and burial-ground.

¹ Besides the church sites given below, we may note Killacolla (9, 17, 18), three townlands and Kylbecan, in Senede Manor, 1298. Inq. of Tho. f. Maurice (C.S.P.I., vol. iv., p. 258). I have no direct evidence of churches having stood at these places.

² This is certainly Kilfergus, but as the manor of O'ffargus lay in Clonagh, 1452 (rental), caution must be used in "O'fergus" entries. The church of Rathfergus was resigned by Athissell Abbey, 1237 (B.B.L., p. 76); but it is probably not Kilfergus.

143. ARDNAKISHA (18).—Same. A burial-ground.

144. KILMOYLAN (19).—A parish. Kilmolan, 1302; Keilmualain, 1410; Kilmolan, 1418; Kilmoylan, 1615. *Fabric*—A late, plain church on the extreme east edge of its parish. It is 35 feet by 18 feet; the west gable fell 1839; the windows are defaced, and the door heavily ivied. It is of hammered stones with a flat lintel resting on corbels (O.S.L., 8, p. 28).

145. AHENOGORP (27).—Same. A burial-ground in Cloonahard.

146. SHANID (19).—Same. Senati, where the Ui Chonail and Ui Fidgeinte severely defeated the "Danes" in 834 (Wars G. G., p. 9). Senode granted by Tho. f. Thomas to the See, c. 1230 (B.B.L., p. 106). In 1586, "est juxta dictum (inferiorem) castellum, ex parte orientale ejusdem, capellam nuper edificatum cujus muri tantumodo nunc remanent" (Peyton, p. 99). *Site*—Forgotten.¹

147. KYLE TINNAKIL (18).—Same. Kylsynkyll, 1336 (rental). *Site*—A burial-ground near the dolmen and pillar-stone of Cloughlis-leagaun. They are described by W. C. Borlase.²

148. KILTEERY (18).—Kailtyry, in the Manor of Leamkail, 1336 (rental); Kiltteery on the west angle of the parish, 1657 (D.S. (B) 14); Lisrady, or Lisready, Church, near Kiltteery, in Connelloe, 1667 (Limerick Terriers, P.R.O.I., No. 41). *Site*—Forgotten in townland.

149. DUNMOYLAN³ (19).—A parish. Dunmolyn, 1291; Donmelyn, 1302; Dunmuilin, 1410; Dunmolyn, in O'connyll, 1452 (rental); Ounmaoilin, 1568 and 1580 (A.F.M.); Drumvoylin, 1615; Killearg, Dunmoylan, and Kilcoulman were granted to Sir T. Chambrelan, May, 1670 (Act Sett.). It belonged to Manisternegaylagh (see *supra*, 134). *Fabric*—The south wall alone stood in 1840. The foundations are 42 feet by 18 feet. The south window and door are defaced, but the blocks of the latter show a round-headed, neatly-moulded door with rosettes (*circa* 1500), walls 11 feet by 3 feet. It was ruined, but the walls entire, and had a west window and south door in 1657 (D. S. (B.), p. 3); near it is Tobereendowney well. The nearly-levelled dun to the north is 90 feet across.

¹ Kiltoman, perhaps the Bylletoman (or Kyllletoman) in the Manor of Shened, 1452 (rental). It may be Cooltomin in Kilbradran. St. Toman was of Mungret; his festival was July 26th. The site is now forgotten.

² "Dolmens of Ireland," vol. i., p. 46.

³ In this parish we find "Kilmoenog prope Dunmoylan," 1336, but no evidence of a church.

150. GORTADROMA "KYLE" (18).—Same. *Site*—A kyle and a burial-ground, with a well: Tobereendowney.

151. KILCOLMAN (INFERIOR) (19).—A parish. Kilcolman, restored by Athissell, 1253 (B.B.L., p. 101): Kilcolman-inferior, 1302, 1418, 1591, in Toghe Olybane, 1586 (Peyton, p. 67) and 1615. *Fabric*—It was 45 feet by 18 feet 9 inches; the gables gone, and the south wall broken; 30 feet of the north wall, 10 feet by 4 feet, remained, with a defaced window, in 1840. St. Colman's Well had a pattern on October 29th.

152. KILBRADRAN¹ (19).—A parish. Kilbradran, restored by Athissell, 1253 (B.B.L., p. 84); Kylbraderan, 1291; Kylbradrain, or Knockbraderain, dedicated to St. Brandon, the abbot, 14th May, 1410. Kilbraderan, out of repair, 1615 B.; Kilbroderan, 1633. David Nangill, vicar, 1551 (Fiant, 825). Kilwarderan, leased to B. Cusack, 1551 (*ib.* 744). The Saint is locally "Bradán," or "Bradran," not Brandan. *Fabric*—The south wall of the choir stood in 1840, but is now nearly levelled. Nave, 35 feet by 17 feet 8 inches; choir arch defaced: it was pointed; plain south window; the walls, 14 feet by 2½ feet (O.S.L., 8, p. 20, O'Keeffe). On the low hill beside the church is a remarkable caher, with earthworks (described Proc. R.I.A., vol. xxiv. (C), p. 275).

153. KILLISLONAN Church is given next Kilbraderan in 1633 (*Visitatio Regalis*). *Site*—Unknown.

154. KYLBRAHERAGHE, in Kilbradran, in Toghe Drynan, 1586 (Peyton, p. 91). *Site*—Unknown.

155. DOONDONNELL (28).—A parish in Connello. In 1237 the benefices of the lands of Robert Donndonolde,² near Rathgel, were resigned by Keynsham (B.B.L., p. 75). This marks the founder as the earlier Robert of 1201 (see also Plea R., xiv Hen. III., No. 4, m. 1259). Chapel of the castle of Robert de Dundonenyld, 1291. Castle Robert de Dundonoyl, 1332, dedicated to St. Mary Magdalen, 22nd July, 1410; Dondononill, 1418; "Castro Robti Dondwnyll vocata, Harold's Castle," 1452 (rental), whence Cloghnarold. *Fabric*—

¹ Toghe de Drynan lay in this parish (Peyton, p. 91).

² Miss Hickson, R.S.A.I., xx., p. 164, asserts that the family name of Dundofnyld, or Dundonenyld "was, in course of time, abbreviated into Dundon." However, the names overlap as separate families from at least 1279 to 1318 (B.B.L. and Plea Rolls). The parish is called Dondaniel in terriers of 1781 and 1785, P.R.O.I., No. 46.

It is 45 feet by 18½ feet; the gables fell before 1840, and 26 feet of north wall remained; there were two defaced windows, and a round-arched door. No burials had taken place there since 1810 (O.S. L. 8, p. 165). St. Molua's Well near it.

156. CLONAGH (27).¹—A parish. Cluonech, 1201. Bishop Robert, and Martin, the chaplain of Clounath, made grants 1252 and 1257 (B.B.L., xiii., xviii.). Clonagh, 1302; Cloainech, 1418; Clounach, and Clonagh, ruinous, 1615 B. Cluain eat or Cluain at (O'Donovan). *Fabric*—The east and middle gables, and part of the north wall alone stood in 1840, and appeared to be late. St. Kieran's Well, with a pattern, on September 9th, stood near the ruin (O.S.L. 9, p. 163).

157. KILSCANNELL² (28).—A parish. Killscannell, 1201. Quit claim to Kilscanyll by Ade Palmifer, 1280 (B.B.L., lxix.). Nicholas O'Cathbuoyg, the unlawful occupant, ordered to assign the perpetual vicarage of Kylscanyll to Gilla-Seanayn Ohalphy, dispensed, though the son of a priest. It was void, because Ric. Burchs held it a year, without ordination, 1396 ("Cal. Papal Letters," iv., p. 530). Kilscanyll, 1302; Kystannyl, 1418; Kiskannell, ruinous, 1615 B. *Site*—The ruined I.C. church was built on the old site, 1822.

158. KILMURRY, OR COOLAMORA (28).—Same. *Site*—A "kyle" burial-ground; the church stood in ruins in 1839, when it was demolished to build a house.

159. KILSMATTYRE, in Deanery of Rathgel, 1302. Rev. J. Dowd says "Castlematrix," near Rathkeale; but no such church is known.

Two other churches, not in County Limerick, belonged to the deanery.

160. KILMURRILY, in Kerry (O.S. 3).—In the barony of Iraghticonor and parish of Kilnaughtin. Kilmurrily, or Killumrille, 1201; Killmorill, 1291; Kilmorill, in Rathgel deanery, destroyed by war, 1302, given before Rathnaser; Keilmily, or Keilmuarille, 1410; Kilmeely, *alias* Kilmurreelie, 1615 B. It lies just over the border of County Limerick. *Fabric*—Kilmurrily church measures 50 feet by 23 feet; walls, 2 feet 10 inches thick, of small stones. The east window is rude, narrow, and high, made of thin, hammered slabs. It is 7 feet high, and 7 inches to 10 inches wide, the jambs sloping.

¹ Clonagh coincided with the Manor of Offargus, 1452 (rental).

² Killeheen (28).—Killeline, in Kilsannell, 1655 (D.S. (B.) 4); there is also a Killeline near Newcastle, may be also a church site.

There are two square-headed south windows, and a defaced south door. The rest is featureless (O.S.L., Kerry, 14 D. 11, p. 2).

161. INISCATHA, OR SCATTERY ISLAND, in Clare, in the barony of Moyarta, a parish of Kilrush. It appears as belonging to the See of Limerick, 1201 (Meyler Fitz Henry's Inquisition), 1408 (a deed in Brady's "Episcopal Succession"), and 1418 (Taxatio Procuracionum). In 1290, a lawsuit of the prior of Rathkeale (*supra*, 118) shows how ample were the rights then claimed over the island (Plea R., *loc. cit.*). Bishop O'Dea speaks of "lands belonging to Limerick, from that island of Iniscathy, which I have recovered by inquisition . . . which were not before me for many years in the possession of the church," *c.* 1410 (White MSS., 1658 (see Lenihan, "Limerick," p. 564). Nothing approaching evidence (only mere, but confident, assertion) has been advanced to show that the Black Book statements on this point are forgeries. The independent facts show unequivocally that Archbishop Ussher is correct as to the allotment of Iniscatha to Limerick. In 1360 a certain Thomas was appointed bishop by misrepresentation; his appointment was opposed by the Bishops of Killaloe, Limerick, and Ardferit; it is there claimed by Killaloe (Theiner, "Monumenta Hib. et Scot."). It pertained to Limerick, temp. Elizabeth, and has since then been held by Killaloe. *Description*—R.S.A.I., xxxvii., p. 276, T. J. Westropp, and Proc. R.I.A., Ser. iii., vol. vi., p. 169.

DEANERY OF ARDAGH.

The Deanery covers a great tract of hilly country in Slieve Luachra, and among the Ui Chonaill and the Ui Fidgeinte. In it lay the tribe lands of Corcoithe, or Toghe Gortcoythe, round Rathcahill; Bathyn, or Toghe Meaghan, round Rathronan;¹ Toghe Ogallowhoore, round Evegallahoo, in Newgrange, and Tuath Ui Liochain, round Killagholeghan. The royal fort of Teamhair Luachra lay in the neighbourhood of Abbeyfeale and Athlea.

162. ARDAGH (28).—A parish in Shanid and Glenquin. Ardachad, 1201; Ardach, 1204. In 1238 its mill was worth 10*s.* (C.S.P.I., vol. iv., p. 257). Ardacha manor held by Bishop Maurice, 1336 (rental). Numerous deeds, *e.g.* B.B.L., No. 2, in 1272, with Ralph f. Andrew and Gladouisa, his wife (1290 (*Ib.*, vii.); a suit of W. de Caunteton and John Meuner, "quia ip. cum al. arbores ip. Willi

¹ Toghe-Meaghan, Yeaghragh, and Togh-Meaghan, Waghragh lay in Rathronan, Ardagh, and Newcastle (Peyton, pp. 112, 115).

164. RATHRONAN (34, 35, 27, 28).—Parish in Shanid, Connello, and Glenquin; church in Connello. In 1260 was a suit between Lismore and Cashel as to Rathronan and other churches in Limerick ("Cal. Papal Letters," i., p. 370); Chapel of Maurice, 1291, 1302; Rathrunan, 1410; Capella Mauricii, *alias* Rathronan, 1418; Rathronan, 1452 (rental); Rharona, 1615 B. To the rectory of Rathronan belongs the chapel of Mount Temple (Athlea), 1645. *Site*—The modern I. C. church was built on the old site, 1827 (Lewis, ii., p. 508).

165. CAHERMOYLE KYLE (28).—Same. A burial-ground.

166. TEMPLE ATHLEA, OR ATHEA (34).—Same. "Mount Temple belongs to Rathrunan," 1410; "In Ardacha, Ecclesia Donergismathmore, *alias* Eaglas Montin," 1418; Temple Clea on Le Granogh, or Slelogher, in Rathronan, in Tog Meaghan, 1586 (Peyton, p. 120). A separate parish, Athee, Athdee, or Temple Clee (*ib.*, p. 170). It may be the chapel "de Monte Maledictionis," 1302, as there is some legend of a curse of St. Patrick at Athlea. *Teampull Cleleibe*, locally, Atlea or Athlea, 'the church of the mountain.' *Fabric*—All its features were defaced before 1840 (O.S.L. 9, p. 74).

167. MONAGAY (36).—Parish in Glenquin. In 1394, Gerald Ricardi, canon of Limerick, held Moynachy parish ("Cal. Papal Letters," iv., p. 476); Moineagighea, or Moneyghea, dedicated to B.V.M., Aug. 15, 1410; Monagh Adare, 1586 (Peyton, p. 228); Monagah, 1615; Monaghagae, or Monaghague, 1633; Monegay Molchonriah, or Temple na Mona (Lewis, ii., p. 387), *Moinageb*, "moor of one goose" (O'Donovan). *Fabric*—It is locally Templenamona. The church is 87 feet by 27½ feet. The east window has two cinquefoil-headed lights, with a square hood and round splay arch; the shaft was broken before 1840; the north wall is broken. It had, near the middle, an ogee-headed light, and an oblong one farther to east. In the south is a window like the east, but a flat splay arch, and a defaced door. The west end had two small slits. In this parish is Toberbanbain holy well¹ (O.S.L. 8, p. 21, P. O'Keeffe). The parish church was removed to Newcastle in 1775. Monagay was traditionally a templary.

168. TEMPLE GLANTAN (43).—Same. Temple Gleantan, 1410; Templeglantan, on Slevelogher, "vocat Slieve Glantan, in Paroch de Monagh-Adare, in Connello," 1586 (Peyton, p. 124); Glanton, in Toth Gortcoythe Templigh (*ibid.*), Copcoite. *Fabric*—It is 70 feet by 30

¹ Saints of the name are given in O'Clergy's Calendar, May 1st and 9th; the second was Bishop of Leighlin.

feet externally; the east end was levelled before 1840; the rest defaced and overgrown with ash and thorn. The wall, of thin slabs, and 6 or 7 feet high. Locally, Teampul na Glauntane. Fitzgerald mentions a tomb of the de Lacys' not extant in 1840 (Fitzgerald, ii. p. 376, O. S. L. 8, p. 24). It was traditionally a templary.

169. KILLILAGH (53).—Same; detached in Killeedy. Kilhathla destroyed in war, 1302; Kyllayleach, capella spect. ad Rathcahil, 1418; Toghe, Kylheylagh paroch de Monagay, 1586 (Peyton, p. 138); Killelaghe, 1591 (valor). *Site*—Forgotten in townland (see 184, *infra*).

170. DROMCATHMEATH—Capella in montibus, is named after Killilagh, 1418, probably in same parish.

171. RATHCAHILL (43).—Same. Rathcathel, 1291; Rathkahell destroyed in war, 1302; Rathcathill, 1418; Rathcathyll, in Corcoyth, 1452 (rental); Rathkaell, in Toghe Gortcoyth (Peyton, p. 123); Rathcahill, in Newcastle, 1615 A.; Rathcahill, *alias* Monaghagae (not Monagay, which is given separately), 1633. *Site*—Forgotten in the townland.

172. ABBEYFEALE, Cistercian cell (42).—Parish in Glenquin. Feil before 902 (Book of Rights) and in 1116 (Synod of Rathbreasail). It was a cell of Monasternenagh, 1188; Feell destroyed in war, 1302; Feal Abbey, O. S. Bernard, 1410; grant of "half the Abbey or cell of Nephellagh," *alias* Feale, 1638 (Canc. R. Hib.); *Maniŋŋŋŋŋ na Feile*. *Site*—The D. S. (B.), 10, shows the church as roofless, with a lofty tower and pointed spire at north-west angle. It had a nave with a south door and two west windows, a chancel with two south windows.¹ Some fragments of its walls stood in the graveyard, and are said to be embodied in the new Roman Catholic church (O. S. L. 9, p. 143).

173–6. There are four Killeens, one in ABBEYFEALE (43), a second in KILKINLEA (42), KILLENAGHT, near Tobermurty, in Dromtrasna, north (43), and MEENAKILLA in Caher Connell (51).

177. KILLEEDY (44).—A parish and prebend, Cillite or Cluain Cnebail, founded by Ita, daughter of Cennfoelad: she died 569 (Vita S. Ita, Tighernach and A. F. M.). Cill Ite, 810, 833,² destroyed by Norse, 845 (Wars G. G., p. 15); Kellite, 1201; Kelliadeh, 1204; Kyllde, 1281 (Pipe Roll); Killid, 1291, destroyed in war, 1302. Boniface I. appointed John de Geraldinis, clerk, of noble race, to prebend of Kilid,

¹ See Plate XIII.

² In 833 Finnachta, abbot of Cill Ite, died (A. F. M.).

vacant by marriage of Tho. O'Grada, 1389 ("Cal. Papal Letters," iv., p. 346); Killedy, 1418; Kyllde, in O'Conyll, 1452 (rental); Killeddie church in good condition, chancel thatched, 1615 B. It was in ruins, 1655 (D. S. (B.), 1). St. Ita, the abbess, 530-569; her day was January 15th; she, with St. Senan, was patron of Ui Chonaill. The church was finally burned by the Rockites (Lewis, ii., p. 136). *Fabric*—A nave and chancel, 47 feet 3 inches by 29 feet 2 inches and 37 feet by 18 feet; the choir was used till 1800. The walls were 10½ feet by 2½ feet, the chancel arch was pointed, and of cut-stone 10 feet 9 inches wide, the other features modern. The nave was early Romanesque; the west end had fallen long before 1840, but old people remembered its door as round-headed, with several recessed concentric arches. Walls, 19½ feet by 3 feet 2 inches. Fragments of the north and south sides remained; the latter had two round-headed windows 5 feet 3 inches and 31 feet 10 inches from the west end. St. Ita's Well was dry; it was reputed to cure smallpox in children (O. S. L. 9, p. 75).

178. GLENMORE, OR STRAND (44).—Same. Temple Innewé, or Kil-linewee, the ancient name unrecorded. Teampull (or Cill) na h-ingine baioit, after the Dalcassian saint, "the daughter of Baoith,"¹ patroness of Kilnaboy, near Inchiquin Lake, Clare. Lewis (ii., pp. 87, 136) wrongly called it Teampull na Hinghine bugdhe, 'of the devout daughter'; it was a reputed templary. *Fabric*—It was 67 feet by 18½ feet, and entirely defaced in 1840. The inner south wall had a late flat arch of hammered gritstone, and gaps of two windows; the west end was featureless, and the east and north had fallen in the "great gale" of 1839 (O.S.L. 9, p. 142). It was surrounded by a strong mound and ditch, which are well preserved to the west, but barely traceable elsewhere.

179. KILLEEN (54).—Same. Detached part in Killagholeghan. *Site*—A burial-ground.

180. KILLAGHOLEGHAN (54).—A parish. Kelldeochaliathan, 1209; Killalechan, 1291; Kellolethan destroyed in war, 1302; Killocholia-than, "spect. ad prior. et conv. de Kellys (in Ossory) et secundum antiquos rotulos fuit de decanat. de Ardacha, sed novos, de dec. de

¹ See *Journal R.S.A.I.*, xxiv., p. 28, and xxx., p. 409; *Proc. R.I.A.*, ser. 3, vol. vi., pp. 109, 139. An Ingen baith meic Seona Ui Feidlimid is given in *Book of Lecan*, f. 44. MacFirbis says that she was descended from Aonghus, who was son of Cormac Cass, and ancestor of Clan Iffernain (O'Quin), in Clare.

Garth," 1418; Keilaghailichan, or Keillagh a Liochain, dedicated to B.V. M., ad Nives, near Drumcollogher, 1410; Kyllagh holye ghan, or Kyllmygheole in Glenlesse, one of the eight church toghes of Connello,¹ 1586 (Peyton, pp. 181, 245); Killoghliothan, 1615 A, named after the O'Liathains,² perhaps Cíl aca Liathain, or O'Liathains' field (O'Donovan). *Fabric*—It is 46½ feet by 25 feet, and stands in a valley. The south wall had partly fallen, and had a disfigured window and door, with a flat arch under a round arch in 1840. An arch led into a later south wing, 14 feet 2 inches by 15 feet 4 inches; the walls, 14 feet by 3½ feet (O.S.L. 8, p. 50, A. Curry).

181. GORT NA TIOBRAID, OR SPRINGFIELD (54).—Same. Gortne-tubbred,³ in Kyllmygheoll, 1586 (Peyton, p. 244). *Fabric*—The ruined church stood near the modern one in 1840; only the east end now remains.

182. NEWCASTLE (36).—A parish. Novo Castro, 1291; Manor mill, worth 6s. 8d., and vicarage, 100s., in 1298 (C.S.P.I., vol. iv., p. 256); church destroyed in war, 1302; castle and manor, Novi castri de O'Conello, 1306 (Plea R., p. 841); Stephen de Clynton, parson, 1326 (Mem. R., 29, No. 586); church dedicated to St. David, March 1, 1410; in good condition, 1615; Castleno, *alias* Newcastle, on the stream of Owgarry, 1586 (Peyton, p. 154) Cairplen nua, 1579 (A.F.M.). The manor was worth 60s. on death of Maurice, Earl of Desmond, 1358 (Cal. Dublin Cas., p. 256). *Fabric*—There were two churches, one of late seventeenth century at Churchtown, near St. David's Well. The I. C. church "is on the site of the other." Order to change churches of Newcastle and Monagay to Newcastle, 1775 (L.M.H. pt. v., p. 176). The modern church was built, 1777, by W., Viscount Courtenay, who granted the site. *Monument*—Robert, son of Francis Lloyd, of Carnarvon, died 1714. The castle is an alleged templary, founded 1184.

183. GRANGE, OR NEW GRANGE⁴ (36).—A parish. A mill at Nova Grangia, worth 13s. 4d., and hand-mills, worth 6s. and 8s., in 1298

¹ i.e., Clonecrowe, Kyllagh holye ghan, Kyllskannell, Crag mac Mahowny, or Clanmahounde (Mahoonagh), Tongwylly (Tomdeely), Cappa-temple, Poble Neakaghe, and Ardagh (Peyton, p. 181 b).

² This clan dates from before 645, when Tolamhnach, chief of Ui Liathain, was slain at Carn Conaill.

³ Gort na Tiobraid. The scene of battle fought in 1579, in which over 300 English soldiers and thirty officers were slain.

⁴ The Toghe Ogallawhoore of Peyton.

(C.S.P.I., iv., p. 258); Nova Grangia destroyed in war, 1302; Maurice, Earl of Desmond, and his wife, Beatrice, held the place, 1349 (Close R.); "Nova Grangia mōialiū," 1418, or "de ponte," 1410; up, but not covered, 1615 B.; Legraunaha prope Newcastle, 1586 (Peyton, p. 143); Le Granshagh, 1633. *Ḑrainpreat*, a granary, (O'Donovan). *Fabric*—It lies 100 yards to east of the Deel, and is 62½ by 21½; the south door had a round head; all other features were defaced before 1840; walls, 12 feet by 3 feet 2 inches (O.S.L., 8, p. 44).

CHURCHES NOT IDENTIFIED.

184 to 187. KYLKYLINTYER, KYLKYNRE, AND KYLKYLEN-DE-MONTAN,¹ in Killeedy, and KILSANANLETH, in Bathyn (Ardagh and Newcastle), 1452 (rental). These forgotten churches appear as formerly held by Gerald, Earl of Desmond. "The farm of Kilkeedy, with Kylkylinturie, Kykerne, and Kilkellyn de montin, and Killaulagh with Korkoyth," 1586 (Inquisition); Killaulagh is Killilagh (*supra*, 169); Kylkyllyn, in the toghe Ogallawhoore of Peyton (p. 143), near Evegallahoo townland, perhaps at Killacullen; Kylkylintyer, at Kilkyntogher, in Killeedy, now Cantogher (*ib.*, p. 136); Kylkynre, at Kilconroe (*infra*, 232), wrongly called Kilcoorha on new maps. I give these suggestions with all possible reserve. Kilsananlethe appears 1591 and 1592 (Fiants, 5781, &c.); it is named in 1452 as between Cnoknesanath, Knocknasnaw, in Abbeyfeale, and Nenagh, Enaghgare, near Ardagh (D.S. (B), 7).

188. MONTE MALEDICTIONIS, a chapel destroyed in the war of 1302, given as between Killeedy and Killilagh, with Feal. Perhaps Athlea, given with Killocally and Curraghnamullagh to R. Hunt, 1669 (Act Sett.). We, perhaps, find another "curse" name (Mallacht) at Croghnimollogh held by John O'Knoghor in Newcastle, 1586 (Peyton, p. 115); Curraghnemullaght, with Glangonne to south, and Ruskagh to west (Civil Survey, 1657). There is, however, a tradition of some "curse" at the "mountain" church of Athlea.

189. KILLOCALLY, 1669—See last section. The name seems to mean "Nun's church," and may be Strand.

190. KILFIACHNA, situated near Coningnibh,² near Mount Luachra. St. Fiachna had a cell here at Killardan (Mon. Hib., p. 423), perhaps "Killard," at south edge of Ardagh parish (D. S. (B), 7).

¹ Perhaps "de montan" is to distinguish it from Kilkylane, or Kilcullan, in Small County.

² Perhaps Knockanimpaha Mountain in Ardagh (O.S., 35).

was founded here, 1172, suppressed and given to the Hospitallers, 1304; that a Cistercian cell was founded, 1198, at Kilson, or Kilshane, and given to the Abbey of Corcomroe, “*de petrâ fertili*,” in Clare, and lastly a cell of Augustinian nuns at some unknown site near the village (Lewis, i., p. 114). For these I find no old authority. The church is Garthe or Le Garth in 1291, 1302, and 1400. It belonged to Keynsham, 1418. Ballingarry dedicated to St. Euanganus, Aug. 1st, 1410. Pardon to the church of Sir Thomas de Lees, of Le Garth, 1346 (Pat. R.); Garthe in Lym, 1395 (Mem. R., m. 35). Henry IV. to the bailiffs and commons of the vill of Garth, “whereas the greater part had been destroyed by Irish foes and English rebels,” grants certain customs to wall the town, 1408 (Pat. R.); Malachi Nadde was vicar, 1550 (Fiant, 491); Ecc. Garie, 1591; Ballingarry, 1586 (Peyton, p. 56)¹ and 1615 A., “Ballengarie, Gare, or Garrestown, the advowson being part of estate of the dissolved abbey of Kensam,” granted to Sir Robert Boyle, 1603 (Pat. R.); Baile an Ġappaib, Gardenstown (O'Donovan). *Fabric*—Part of the east gable with two round-headed windows remained. It was disused in 1810; near it is the well of SS. Peter and Paul (O.S.L., 8, p. 60). Parts of the north wall and of a tower used as the M'Carthy vault also remain. The I. C. church was built 1820. (See Appendix.)

192. THE FRANCISCAN HOUSE OF KILSHANE (28).—Same. Monastery of St. John of the Third Order of St. Francis, 1410. It was founded for conventual Franciscans by Fitz Gerald, of Clenlis (Cleanglass). Gerot Baluff f. Philip held “the patronage of the religious house of St. Francis, called Kilshane, with a water-mill, in Ballingarry, and part of Kilnemona, in Clonkath,” when he joined the rebellion, 1584 (Inq., No. 54). It has been confused with the Cistercian cell of Kilahanny, County Clare. *Fabric*—In 1840 there stood a nave and choir, 39 feet by 19 feet, and 33½ feet by 19 feet 8 inches, with a tower 60 feet high, on two pointed arches, 15 feet high at the intersection. The tower had ogee-headed lights and an oblong ope under the weather-ledge of the nave roof. The east window was large and pointed, but the sill was destroyed. The north wall was 17 feet high and 2 feet 9 inches thick; it had a breach and a lintelled door. Only a few feet of the south wall, with a defaced door, remained near the

fourth of loathsome hideousness and malignity, Bronach, ‘the sorrowful,’ “who had her dwelling in hell, but abode in the green fairy hills” (Wars of Torlough). See also Dr. Joyce’s “Social History of Ancient Ireland,” vol. i., p. 262.

¹ It formed the district of Toghe Gortcolligon (Peyton, p. 56).

belfry. The west end of the nave was down, and only 11 feet of the side walls adjoined the belfry (O.S.L., 8, p. 61). Old people say that the tower closely resembled that of the Franciscan House at Adare, having stepped battlements and double lights and string courses. It fell in 1854,¹ not in the great gale of 1839, as usually told. The ruins are now levelled to the ground, having been used for building.

193. *RYLAANS, or ARDAELISH* (28).—Same. *Ardeaglais*, the traditional site of the Hospitallers' House, near the well of St. John. *Site*—Its foundations are barely visible near the new Roman Catholic church and Major O'Dell's house.²

194. *KILMACOW* (30).—Same. It lies on the north-east slope of Knockfierna. It belonged to Keynsham, but, like Garth, is not recognisable in the list of 1237 (B.B.L., p. 75). Sybilla de la Chapele claimed one-third of Kylmecho, Killately, &c., in 1319 (Plea R., Reliq. Repertory); Keilmochua dedicated to St. Colomannus, 1410; Kylmocho, 1418. Kilmacoye church is shown near "Knock-feran-agonell" hill and Kilmocynearle church on the map, c. 1590 (Hardiman, T.C.D., No. 56). It was granted, as above, to Sir R. Boyle, 1603; Kilm'cow (D.S. (B), p. 5), 1657. *Fabric*—It is 58 feet by 18 feet 3 inches; the walls, 2 feet thick; the east window, 6 inches wide; the north has a round head, light, and splay; the south is defaced, and the west end down. A very old church (O.S.L., 8, p. 69). It has also a second north window and closed door in the south wall and two ambreys in the east, one to each side of the window. *Monument*—The only one of note is that to Patrick Baggott, 1793, with an absurd inscription.³

195. *KILMACOW "ABBAY"* (30).—Same. South of and near the last, but further up the hill. It stood in a large fort or ring enclosure.

196. *KILMACANEARLA* (30).—Same. Keilvicaniarla, 1410; Kyl-

¹ This was told to Dr. H. Molony, of O'Dellville, by an old man who "heard it fall."

² This old house bore date 1683, with the O'Dell arms (three crescents) on the gable. It was rebuilt by Thomas (son of John O'Dell, a Cromwellian officer), of the Bedfordshire family.

³ "A youth on whom the Graces ahin'd, whilst Nature ogled in his face. His silver tresses hung behind. Lo! all in ashes have a place. O! man, look on Death's empire flow, with eager and unbounded pace." The reputed author was a hedge schoolmaster, who in 1803 planned a rising and the capture of Limerick Castle. (See Fitzgerald, ii., p. 492.) I am indebted for notes on this group of churches to Dr. Henry Molony.

mackenerle, 1586 (Peyton, p. 60); Kyllyntinerla, 1657 (D.S. (B), 5, and Petty, 71). *Fabric*—"The Abbey," as on the map, but not locally. Dr. Henry Molony kindly examined the ruin for this Survey. It consists of 15 feet of the west end and 32 feet of the south wall, with a door, 4 feet wide, and a recess for a stoup. The foundations are 70 feet long, externally; the breadth, not measurable. Other foundations run to the north and east, and form an enclosure, 115 feet by 60 feet, and extend for 50 feet to the north of the west fragment. A farmer, aged eighty in 1897, remembered that most of this church fell in the gale on Little Christmas night, 1839, and the *debris* was used for building.

197. **MORENANE (30).**—In same. The church walls stood in 1840. Only a fragment of the south-west angle now remains.

198. **SHANAVOHA, GRANASH, OR BALLINLEENY (33).**—Same. Seanboch Capell, 1400; Seanboth, with Kilmocho chapels, the Abbey of Keynasham held them, 1418; Cnockseanmabothy, 1410. St. Maidoc, or Aidan, of Ferns, founded Cloncagh in this deanery; and it is probable that he founded this church, for it bears the name of another of his foundations, Senboithe, or Temple Shanbo, in Scarawalsh.¹ Seanboite. *Fabric*—Fragments of the east and north walls stood in 1840; it is now nearly levelled.

199. **BALLYGERENNAN (38).**—Same. *Site*—A burial-ground.

200. **KILMITHIL (30).**—Same. South of and near Ballingarry. Kilmighule, Kysananleth (in Croagh) belonged to its parson in 1452 (rental). *Site*—A burial-ground.

201. **LISSAMOTA (30).**—Same. *Site*—A children's burial-ground in the fort.

202. **KILFINNY (30).**—A parish. Kellnafidnaigi, 1201; Kilnefichny, 1302; Keilfiny, 1410; Kynafynygy, in the prebend of the precentor, 1418; Kilfennie, in repairing, 1615 B. Cil Finche, church of St. Finneach (O'Donovan). *Fabric*—It lies on low ground at Ballynakill. It has a nave and choir, 40 feet by 18 feet, and 15 feet by 14 feet. The latter was partly rebuilt as a burial-place for the Pigotts in 1810. The south window is 6 inches wide. The nave had a round-headed south window, 8 feet from east. The south door had a flat lintel resting on corbels. The walls are 12 feet by 3 feet, parts of large old masonry. St. Kieran's Well lies 36 yards

¹ Senebod in 1225, C.S.P.I., vol. ii.

to the west. *Monument*—Gertrude, wife of John Pigott, and daughter of Sir T. Southwell, 1683 and 1718 (O.S.L., 8, p. 127).

203. BALLINFREERA (31).—Same. *Site*—A burial-ground.

204. CLONSHIRE (21).—A parish. Cluonsiebria, 1201. Reg. de S. Jacobo grants a silver mark on Clonshire, and a fishery at Cathyrasse (see 92) to the Cathedral, 1256 (B.B.L., lxi.); Cluaincheuer manor, 1336 (rental); Cluoinarra, 1410; Cluancheur, 1418; Clonshire-en-temple parish, under Kyltennan, 1586 (Peyton, pp. 179, 251); Cluainriap, western meadow (O'Donovan); but, if so, why "siebria," 1201? *Fabric*—It is called Templenacille, and is 46 feet by 16 feet of early, large, uncemented masonry. The east window has a round-headed light and splay of limestone. In the side walls are oblong little lights, the north defaced. The west door has a sandstone lintel 5 feet by 11 feet 7 inches by 3 feet 6 inches running through the wall; the jambs are inclined.¹ There is a bell-chamber, with two round-headed opes on the west gable; below it an old oblong slit (O.S.L., p. 240; P. O'Keeffe, view on p. 257). The shafts of two very ancient crosses were near it in 1834 (Lewis, i., p. 380).

205. CROAGH (20).—A parish. Croch, 1291; Crothewe, 1302; the Vicarage of Croagh, in Com Lym, and the manors of Crogh and Inyskyfty, taken into the hands of our Lord the King, 1305 (Plea R., 191 of xxxiii Ed. I.), suit of Jordan Cotel v. Robert and Isolda Lovelynych about lands in Crogh, 1317 (Mem. R., vol. ii., m. 14); Croth, 1418 and 1452 (rental); Croðac, a rounded hill (O'Donovan). *Fabric*—It lay in Adamstown, and was cruciform; the chancel and nave both 50 feet by 30 feet; the former still in use. Tobereendowney well was in Ballinveara (O.S.L., 9, p. 437).

206. KILTENAN (30).—Same. In 1290, suit of John and Letitia de la Chapele, and Robert Stakepole, for dower on Kyltenan (Plea R., 22 of xxiv Ed. I., m. 4); "Kyltennan and Kyltennanle, in Toghe Crogh on the Earl's chardgeable land," 1586 (Peyton, p. 71); Kyltenan and Kyltennanloghe, in parish of Croghe, 1592 (Fiant, 5781); Killtennane, in Croghe, 1657 (Civil Survey, p. 50); Killtenane (D.S. (B) 9). *Site*—Forgotten in townland.

207. CAPPAGH (20).—A parish in Connelloe Lower. Kilmacluana, 1201; Kilmaclon, 1291, destroyed by war, 1302; Cappagh Kilmacluana, 1336 (rental); Keappagh and Kyapagh-ydaly, 1400;

¹ See View, Plate X.

Ceapagh, or Keilnaceappug, or Triostane, 1410; Kylmecluana, 1418. Grant by the Knight of the Valley off Cappagh Kilm'lwony to Friars of Askeaton, 1541 (B.B.L., p. 144); Cappagh in good condition, 1615*a*, not Clonagh, as by Dr. Reeves (MSS. 1063, T.C.D.). Ceapać, 'tilled plot' (O'Donovan). *Fabric*—The church lies not far from the very picturesque castle. It is 53 feet by 14 feet. The east window is large, with two pointed lights, and round-headed splay arch. The south is pointed, with a flat splay head; and the south door is pointed. The west gable has a round-headed ope; walls 15 feet by 2 feet 10 inches, with parapets (O.S.L., 9, p. 439).

208. CLONCAEH (37).—A parish in Connello Upper. Cluonkai, 1201, confirmed to Cathedral, 1228 (B.B.L., lx.), destroyed in war, 1302; Cluaincagh, 1410; Cluaincath, 1418; Clonecagh (D.S. (B) 13), 1657. O'Donovan identifies it with Cluain Claidech,¹ in "Life of St. Maidoc"; but Cluain Claidmech is given separately from Cluonkai, and with Drumcolloher and Clonelty in 1201, which supports Dr. Reeves in identifying it with Mahoonagh. St. Maidoc is, however, patron of Clonecagh on Jan. 31. *Fabric*—It is very old and defaced. The chancel is levelled; the nave is 37 feet by 16 feet, with a round-headed choir arch 11 feet high, with broken jambs. Only a fragment of south wall, and the north and west walls of large stones, remained in 1840 (O.S.L., 9, p. 170, J. O'Donovan). It stood in a large circular fort, not noted in O.S. Letters. Only the west end and part of the north wall are standing. The well of Tobermurry lies in the fort. Tobereendowney and Toberpatrick wells, with Lachtpatrick, are in the parish. *Monument* of the O'Sullivans, 1690–1708.

209. BALLYHAHILL² (36).—Balisahel, in Garthe deanery, destroyed in war, 1302. *Site*—Forgotten in the townland.

210. CLONELTY³ (37).—A parish. Cluonelti, 1201. Granted by Bishop Robert to Hugh and Ismay de Possewyk, 1254 (B.B.L., xvi.); Adam Flaundrens granted Clonylte to Bishop Gerald, 1275–80 (*ib.*, p. 90), who had a suit with Pagan de Sniterby, 1280, and Richard de Clare had another in 1317 with Adam, vicar of Clonelth church about lands at Clonelth (Mem. R.), Clonelthy, 1302; Cluainelty, 1418. It was dedicated to St. Ita (Lewis). Cluain eilce, 'plain of the doe'

¹ Claidech was granted to St. Maidoc by the chief of Ui Chonaill Gabhra (Act. SS. 212).

² There was also a Ballyhahell in Kilcolman, near Rathkeale (Peyton, p. 68).

³ The district of Trean-Moyreany, 1586 (Peyton, p. 81).

(O'Donovan). *Fabric*—The church lies in Ballynoe, and has been remodelled. It was pre-Norman, 33½ feet by 21 feet. The east gable and south-west angle fell before 1840. The south window has lintelled splay and light; the west door, a round arch of well-cut gritstone, with no keystone; walls extend south from the west end, and north from the east (O.S.L., 9, p. 167, with sketch).

211. KILTANNA (37).—Same. Kiltanna, in Clonelty, “de Magrany,” 1258 (B.B.L., p. 93), perhaps the Mayryne held by Keynsham, 1228 (*ib.*, p. 93); Magrayny, *alias* Kylteany church, 1418; Magrenny, or Kyltenne church, 1615. See Mayne, *infra*, section 214.

212. MAHOONAGH¹ (36).—A parish in Glenquin. Cluainclaidmech, 1201 (see section 208); first identified by Dr. Reeves. Suit of W. de Lascy and N. Le Petit as to Mointauney (C.S.P.I., vol. i., Nos. 1854, 1904, and Close R.). Mayntauney church surrendered by Keynsham, 1237 (B.B.L., p. 75). In 1278 Phil. de Wigorn enfeoffed G. de Mariscis with a theodum, exchanged with W. Prendergast for another in Occonil, called Maccaueni (C.S.P.I., vol. ii., p. 422); Moyavenach manor fully given, 1288 (*ib.*, vol. iii., pp. 205, 256); church worth 10 marks, 1298; dower is claimed off it, Any, Inskyfty, Bonrat (Clare), and Ardayne (Galway) by Isabella, widow of Gilbert de Clare, 1315 (Plea R. 109 of viii Ed. II., m. 71). Maytownagh dedicated to St. John the Baptist, 1410; Moytawnach in present. com. Dessemon, 1418; Moytawnach fully given, 1452 (rental). Denis Cahysy, its priest, got pardon for procuring bulls for the canonry of Kilkeedy and rectory of Motawnach, 1558 (Fiant 240). Toghetawnagh, or Mahownagh, 1586 (Peyton, pp. 36, 50, 54). It is locally “Mačumneac, probably Maččamneac, campus vaccarum lactiferum” (O'Donovan); others give the form Mečonac.² Reeves, however, gives the form Maččamnac, from (he states) the P-irtamnaige, a tribe of the Ui Fidgeinte. *Fabric*—It is 69 feet by 24 feet. East window was of gritstone pointed, with one shaft branching at top and bar-holes. The south window was early, with inclined jambs, round

¹ Creadire, in Moyavenach, is named in 1288 (C.S.P.I., p. 44) and in Plea R. (40 of xxvii Ed. I., m. 6, and 44, m. 10). It may be only church land, not a church. Killaready (36) in same; Kilredyr, in Moyavenach, &c. (C.S.P.I., vol. iii., p. 205); Kylneredyre, 1452, and Peyton, p. 54, and Kilgullohan, in Clonelty, Kyllgultoban, 1568 (Peyton, p. 81), may also not be a church.

² R.S.A.I., vol. xi. (1870), p. 629. The author argues strongly in favour of the superiority of this form to that given by O'Donovan.

head and mouldings;¹ south door and other features defaced; walls, 12 feet by 3 feet (O.S.L., 8, p. 46, A. Curry).

213. CROMMAN.—Same. The chapel is named as in Garth deanery under Tho. de Clare, c. 1280 (C.S.P.I., vol. iii., p. 205), 1418, and in Moytawnagh manor, 1452 (rental). It was held at the rent of a sparrow-hawk by Maurice de Lees as part of Moyavenach, 1288.

214. MAYNE (45).—Same. A reputed templary (Lewis, ii., p. 336). Mayne (not Mayrine, which is also given), surrendered by Keynsham, 1227 (B.B.L., p. 75). *Site*—Forgotten. There is a castle site, and a legend of a ghostly thresher.

215. KILNECALLY, in Moytawnach, 1452; perhaps Maymolcally church, next Mayne, 1237 (*loc. cit.*). (See 188.)

216. BALLYKILMORE (45).—Same. A "kyle" used for burial till 1830, but levelled by 1840.

217. AGLISH (45).—Same. Near Feohanagh. Possibly Aglissimona, 1410 and 1615 B; Aglassnagroman, in Tawnagh, 1586 (Peyton, p. 52); Aglishemonagh, 1633. It was in Rathkeale Deanery in 1615. *Site*—A burial-ground.² (Perhaps Cromman: see 213.)

218–220. KILMACSNEHYN, KYLORDAN, AND KILCONLEIHE, 1288 (C.S.P.I., vol. iv., p. 257), between Moytauenach and Corkoygh; Kilmacsnewyn Kilcredan, and Kilconleth, in Corkoyth, 1452 (rental); Kilkrydan, Kilmacsalwyn, and Kilconleth, 1584 (Inq.). *Sites*—Unknown.

221. DROMCOLLIER (54).—Parish in Connello Upper. Drumcollechaellor, 1201; Drucolthill, destroyed in war, 1302; Dromcolluchuir, 1410; Capella Dromcolkylle, in Corcomohid, 1418; Opomcollacarp, or Opomcolcoille, 'hazelwood ridge' (O'Donovan). Dedicated to St. Bartholomew. *Fabric*—55 feet of the sides, with the east gable, remain. The church was 21 feet wide. The east window had round-headed splay and pointed lights; the mullion gone in 1840. There were two south windows (O.S.L., 8, p. 58, A. Curry).

222. CLONCREW (54).—A parish. Cluencrema, 1201; Cloncrew, destroyed in war, 1302; Cluaincreama, 1336 (rental); Cluoincreu, dedicated to St. Bartholomew, 1410; Cluaincreama, 1418; Clucruigh,

¹ Illustration, Plate X.

² Even in 1805 Aglish glebe had only "a small burial place on the premises, but no remains of there ever being a church. There are three ash trees." Limerick Triers, P.R.O.I., No. 13.

alias Cloācrowe, 1638; Cluaincpeará (O'Donovan). *Fabric*—It is 47 feet by 16 feet; only the ends remained 1840. The east window, very old, with lintelled splay and angular head of two stones; walls 3 feet thick, of small stones. It still stood in 1901. (O.S.L., 8, p. 161).¹

223. KILBOLANE (54).—A parish, of which a fragment, with (I think) no church site, extends from over the Cork border.

224. KILMEEDY (45).—A parish. Kelioda or Keilmide, in Ardagh, dedicated to St. Ida, abbess, Jan. 15, 1410; Kyllmyde, in Corkemohur and Polemynterquyller, 1586 (Peyton, p. 46). It also mentions Keilina, *alias* Pailis, in Garth; and as Kilmeedy is in Pallis townland, the first may be a confusion with Killeedy. The patroness of both is variantly named Derthrea or Deirdre, and (after her profession) Ita or Mide. *Fabric*—It was appropriated to vicars choral, and rebuilt in 1665, and again in 1837, as church of the union of Corcomohide.

225. KILMURRY (46).—Same. Confirmed to Mac Eneiry, 1605 (Pat. R.); Kilmure, 1657 (D.S. (B), 5).

226. KILCOLMAN (46).—Same. The ruined church shown in 1657 (D.S. (B), 5, and Petty 71).

227. CORCOMOHIDE, OR CASTLETOWN² (38).—A parish. Records of the manor are very abundant from before 1276, when Maurice f. Maurice granted it to his son-in-law, Tho. de Clare, at the rent of a soar-hawk (C.S.P.I., vol. iii., No. 420). De Clare and his wife Juliana granted Corkemoyd church to the Cathedral, c. 1276, and Juliana surrendered its advowson, 1287 (B.B.L., pp. 93, 97). Granted to the deanery (ib., pp. 98, 99). A weekly market was established 1284 (C.S.P.I., vol. ii., No. 2283). The manor was held by R. de Clyfford, 1344; and Tho. de Clyfford, 1389 (Chancery Rolls). The church was destroyed in war, 1302; Dionis O'Dowda was its vicar, 1388 (Pat. R.). It was dedicated to the Purification, Feb. 2, 1410. Copcamuicéac in 1420 (O'Huidhrin). Mac Eneiry built its castle in 1349; the tribe was confirmed in its lands, 1605, which were confiscated, 1688. It was eventually purchased by Capt. G. Conyers, 1703, whence its present

¹ View on Plate X.

² Possible church sites, but without proof, may be at Kilrhus, in Corkmoyth, held by T. de Clare, and claimed by John de Mariscis for Desiderata de Mariscis, who held it from de Clare, 1297 (Plea R. 26 of xxiv Ed. I., m. 46 d.); Kilehantain, in same, near the edge of Cloncagh (D.S. (B) 2); and Killykydonnell, near Kilgobenet, 1612 (Pat. R., p. 198, and D.S. (B), 2).

name,¹ Castletown Conyers, has superseded Castletown Mac Enery on the maps. *Fabric*—The ruined church is in the demesne of Castletown Conyers. It is 120 feet by 26 feet 9 inches inside; the walls are 3½ feet thick and 14 feet high. The east window is of red sandstone, with a mullion of seven blocks, and two high round-headed lights. There is a small slit beside it to the north. In the south wall are a pointed door, a broken window-ope, and a window with two pointed lights near the east end. The west gable has a small window, and the north wall a pointed door leading to a sacristy. The Conyers' burial-place is in the west of the church.² (O.S.L., 9, p. 186.)

228. KILGONNET (46).—Same. Kilgobenet, 1612 (Pat. R., also D.S. (B), 2). *Site*—The well of St. Deriola and St. Gobnet's fort remain.

229. KILLACOLLA (46).—Same. Killehalla, 1586 (Peyton, p. 43). *Site*—An infants' burial-ground.

230. CAPPANIHANE (38). — Kilgoban, in Cappane-anth., 1657 (Petty, 71; and D.S. (B), 2).

231. MOYATHA, or Moyalthe, church, destroyed in war, 1302; given in Corkomohid, 1418.

232. KILCONROE, or "KILCOORHA" (44).—Kilkenro, part of Killeedy manor in 1298 (C.S.P.I., vol. iv., p. 260); Kylkynre, in Corkoyth, 1452 (rental); Kilkonrough, 1522 (Fiant, 5781); Kilconra, 1601 (*ib.*, 6487); Kilconroe, 1657 (D.S. (B), 1; and Petty, 71). The local name is correctly Kilconroe.

233. OUGHTLOUGHLINTAMPLE, in Corcomohide, 1612 (Pat. R., p. 198).

THE DEANERY OF KILMALLOCK.

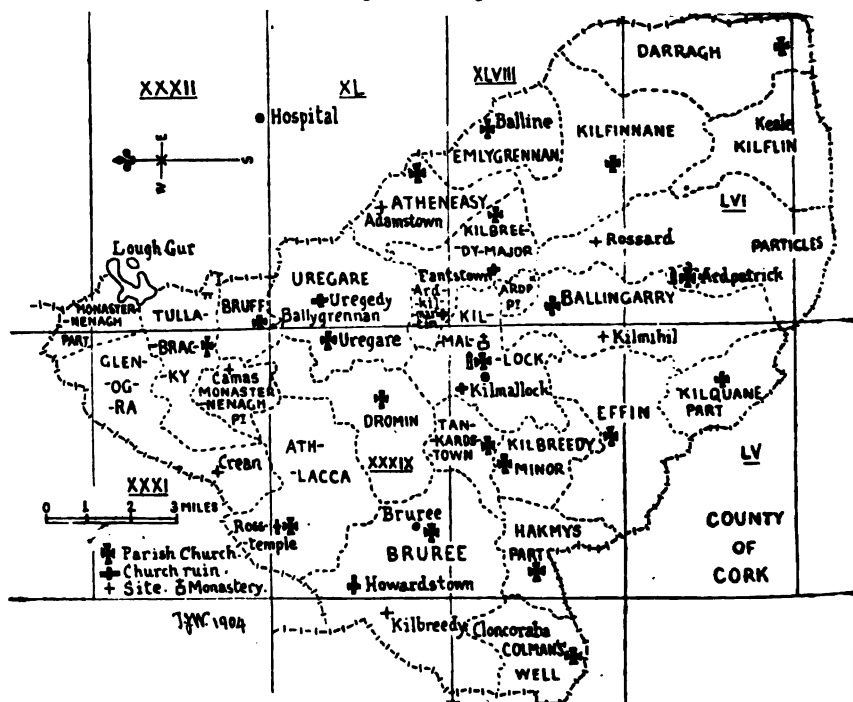
This district covers the Barony of Kilmallock, with parts of Coshmagh, Connello, Coshlea, and Small County; it is the ancient Ui Cairbre. It was in early times one of the most important parts of the present county. The seats of the Dalcassian kings, from the days of the prehistoric Oilioll Olum (third century) to Christian times, lay in the Mague Valley round Bruree. There also the O'Donovans (Ui Donnabhain) ruled in later times, as the Dalcassian power centred more and more in Clare. The Dalcassians,

¹ It was the centre of the old "Toghe de Clonhennerye" (Peyton, pp. 41-65b). It covered Kilmeedy and Corcomohide, and was confirmed to J. Mac Enery, 1607.

² The magnificent abbey, mentioned by Archdall and Harris, was probably only this ruin.

as we saw, had a shadowy right to alternate succession at Cashel; but their successful attempt to annex the southern part of Connaught (the later Thomond) drew them northward to Singland by 430; to Killaloe by 680 (and to Clonroad by 1230), losing their hold on Cashel till the days of the great sons of Kennedy—Mahon and Brian, 950. They paid no dues to Cashel, save the heroic right alluded to in a poem of Cormac mac Cuillenan, king and bishop of Cashel, *ante* 902:—

“ It is the privilege of the hosts of Lughad’s race
To lead the battalions of the host of Mumhan,
And afterwards to be in the rear
In coming from a hostile land.
It is not fealty that is required of them,
But to preserve the freedom of Cashel.
It is not rent—it is not tribute—as has been heard,
It is not fosterage or fosterage fee.”¹



The Deanery of Kilmallock. (For “Ballingarry” read “Ballingaddy.”)

¹ Wars G. and G., p. 55. Book of Rights, pp. 67, 71.

They received (sole proof of a subordinate position), when not kings of Cashel, ten steeds and dresses, two rings, and two chessboards. The kings of Brurigh (O'Donovan) got seven steeds, wine-horns, serving-youths, and bondmaids from Cashel, and ten "brown-red tunics," and ten "foreigners without Irish" from the Ard Righ.

The king of Cashel was supposed to hold the forts of Brughrigh, Mulcheare, Claire (Dunglare fort), Drumfinghin, with Treada na Righ (the triple-ringed mote of Kilfinnan). On the borders of the district they also claimed the forts or residences of Dun Gair and Lough Ceann (at Lough Gur), and Ratharda (suird), or Rathurd (see *supra*, section 32).¹

The deanery, though (as was usual) taking its name from the walled town and castle of Kilmallock, was also the representative of an ancient monastery and church.

234. SS. PETER AND PAUL'S COLLEGIATE CHURCH, KILMALLOCK (47).—A parish. We include, as before, the salient points of the history of the place. It has been long usual to equate Ptolemy's *Μαγολικον* with the *Cilmoctellog*, or Kilmallock, from which, despite the errors of his map, it is not very divergent. Of late, Magolicon is asserted to be Cashel, but no proof is given; and "Mag" is evidently a plain, not a high rock, like Cashel. Mo Cheallog, or Da Celloc, is evidently a clerical name, but of a somewhat misty legendary saint, said to have died about 639. The place, to resume our study of facts, is *Cilmoctelloc*, in 1028; *Cilmoctelloc*, 1050; *Kilmechelogg*, 1201. Deeds then become very numerous: *e.g.* in 1206 King John orders an inquiry to find whether Kilmallock Castle and the cantred of Karbry belonged to the kingdom of Cork or that of Limerick (C.S.P.I., vol. i., No. 289). In 1221 fairs were licensed. The Black Book gives many deeds, *e.g.* final concord of David de Barry about Killochia, 1266 (ii); Claricia f. Pagan to Bishop Hubert and his burgesses of Kilmallock, names the families of Gule, Ermeyor, Blunde, Brice, Long, White, Tabernar, Innew, Tanner, Somerford, Brun, Wild, Karleys, Prendergast, 1222-30 (xx). In 1235 G. de Mareys injured Kilmallock church lands (p. 17); 1276, quit claims of T. de Clare (xxiv); charter of W. F. Martin, 1222 (xxv); of Ger. f. Milo and Claricia, his wife, 1222 (xxvii); the mill restored, 1248 (xxx). An important set of deeds, unfortunately undated, *c.* 1280 (pp. 63-72), mentions many streets, lands, and holdings, "the main street on the way to the Church of the Apostles Peter and Paul," *via regalis*

¹ Book of Rights, pp. 87, 95.

towards Emly, the cross, mill, &c., &c. Nic. Stoppil was then provost. Sandyr, the harper, &c.¹ The suit with Athassell Abbey was tried on the 4th day (octave of St. John Baptist, 1258) in the greater church of Kilmehallok (p. 87). The surrender of the disputed churches is dated there (p. 103), and a grant of Bishop Hubert to J. Cornubiens, of Kilmallock, 1228 (p. 132). In 1361 B. Dullard, sch., was licensed to be chancellor of Limerick, prebend of Ballycathan, and perpetual vicar of SS. Peter and Paul's, Kilmallock (Papal Petit., i., p. 383). The church was enlarged by Maur. f. Gerald, 1320.² Ecc. de Kyllocia, 1418, ded. to SS. Peter and Paul, 1410. "Dom. S. Petri de Kilmallock, collegiata ecclesia," with cloister, hall, buildings, and orchard, 1594 (MSS. T.C.D., F. 4, 25). The church was the scene of the surrender of James Fitzmaurice, of Desmond, to Perrot, and of the service attended by James, earl of Desmond, which led to so serious an outbreak of his late adherents. In 1657 Kilmallock was "totally ruined and uninhabited." (D.S. (A), 516); see also map (51).³ *Fabric*—An interesting and massive building within the town wall, on the brink of the Lubagh stream. It has a chancel, 49½ feet by 25½ feet, with a large five-light east window, and still in use. The nave has side aisles, with plain arcades of four pointed arches to each side, and is 80 feet by 65 feet. The west window has three large lights, and below it is a well-moulded pointed door of early thirteenth century. Embedded in it, at the end of the north arcade, is a much modified but ancient Irish round tower, now battlemented, with a door on the ground, and covered thickly with ivy since I first examined it in 1878. There are a broken porch, the inner door of c. 1420 with crockets, and a side chapel with late insertions. *Monuments*—John Verdon (put up by Sir W. Coppinger), 1614, and his wife Alsona Haly, 1626; Thomas Fitzgerald and Joane Burke, 1630; Maurice, their son, and his wife

¹ A later but important document, "Forfeited houses in the town of Kilmallocke," September, 1664, names several streets and specifies the houses, whether of stone or mud, the gardens, and tenants; it notes the ruined castle in the High street. "Limerick Terriers," P.R.O.I., No. 40.

² It is generally taken to be the Augustinian House; but the 1410 list gives "the Monastery of the Regulars of St. Augustine in Kilmallock" as separate from "the collegiate and parish church . . . dedicated to . . . Peter and Paul." An abbey called "Flacispaghe" had been demolished before 1536 (Inq. xxix Eliz.); perhaps "Lackanaspike," as in section 236.

³ A fallen dolmen of three large slabs lies behind the new Roman Catholic church. It is described and figured by Mr. P. J. Lynch in "Limerick Field Club," vol. ii., p. 282; but was first noted by Rev. J. Dowd.

Elenor, 1635; Elizabeth, daughter of Daniel Webb, 1684; Laurence MacNamara and his wife Mary Fitzgerald, 1754; Elizabeth, wife of Chidley Coote, 1781,

The College held the livings of Cloncagh, Clonelty, Corcomohide, Crecora, Kilfergus, Kilgobbin, Kilmoyland, Kiltarny, and Morgans, with Chapel Minet, and half Chapel Martin.

235. ST. JOHN'S CHAPEL.—Same. "Vicus S. Johannis" is named in Kilmallock, *c.* 1270 (B.B.L., p. 71); church, "between the bridge and St. John's gate," 1410.

236. ST. MOCHMALLOG'S CHURCH.—Nic. Kerdiff has fled to the church of St. Myhallock at Kylmehallock, 1318 (Plea R., 116., m. 35). "S. Mathologus, on the hill of Kilmallock," 1410. *Fabric*—The foundations of large blocks, but only a couple of feet high in 1840, and 3 inches thick, and measure 22½ feet by 12 feet 3 inches; they lie on a rising ground.

237. THE DOMINICAN CONVENT.—Same. In October, 1291, the Dominicans entered on a plot of land given by a burgess of Kilmallock, but they were violently evicted, and their house destroyed by the bishop's retainers (C.S.P.I., vol. iii., No. 962). It is alleged that the convent was founded that year by Maurice Lord Offaley, or, as de Burgo says, by a second son of John, of Callan (1260). In 1318 William, bishop of Imelac (Emly), accused of taking a box of silver out of the church of the Friars Preachers at Kilmallock (Plea R., 123 of xi Ed. II., m. 30). In 1648, Father David Fitzgerald and a lay brother, David Fox, were put to death by the Republicans. For other items, see "Hibernia Dominicana" and the "Monasticons." It was granted to Nicholas Miagh, "sovereign" of Kilmallock and the commonalty (Ap. 24, xxxvi Eliz.), being the Dominican House, with a church, cloister, room, buildings, an orchard, and three gardens, eleven acres in Kilmallock, and a water-mill (MSS., T.C.D., E. 425). *Fabric*—An interesting ruin with a beautiful church. The chancel is 66½ feet by 24 feet, with a fine five-light east window,¹ six south windows, and a canopied tomb. The nave had a side aisle, the arcade of which has fallen, with a west window and pointed door, a north clerestory, with an unusual round window, and a two-aisled transept with two side chapels, and a beautiful reticulated window,

¹ Lackanaspikes, or Parcell of the Bishop, near the Hill of Kilmallock.

"Limerick Terriers," P.R.O.I., No. 42.

² View, Plate XI.; Plan, Plate XVII.

which was blown down after 1880, and restored by the R.S.A.I. The cloister shows no sign of an arcade; a vault has collapsed. The vaulted kitchen¹ and upper rooms are well preserved, and lie to the north; the chapter house and sacristy to the east. *Monuments*—Three brothers, George, Edward, and Alexander Burgate, who fell in the Civil War, 1642, and the slab of the White Knight.

238. TANKARDSTOWN (47).—A parish in Coshmagh. Ballytankard, 1291, 1303. Suit of Thomas Russell, and Anselm, and Tho. Myagh, to enquire if John de Cogan was unjustly disseised by John Russell (grandfather of Thomas) of lands in Tancardeston, 1320; and suit of Nic. and Juliana de Lees, and Adam de Goullys about same (Plea R., 127 of xiii Ed. II., m. 12). Ballyhancard dedicated to St. David, March 1st, 1410. Balytantard, 1418 (Map, D.S. (A), 43.)² *Fabric*—It is 43 feet by 24 feet; only fragments of the north, south, and west walls, the south 18 feet long and 12 feet high, remain.

239. BRUREE (39).—A parish in Connello Upper. The ancient Duncuiric (O'Huidhrin), Ծրսճրիճ, 715, 1088. Brughrighursi, 1201. Held by Keynsham, 1237. In 1242, Brunry was seized from John de Marisco, and his wife Mabel, grand-child of Ric. de Burgh; it was restored to her (C.S.P.I., No. 2584). In 1289 it was held³ under warrant of Maurice and Eva de Lesse, by Robert de Mariscis (Plea R., xviii Ed. I., Cal. i., pp. 52, 80). In 1318 Reginald, its vicar, was robbed by Patrick de Lees (*ib.*, 123 of xi Edward II., m. 36). Brury dedicated to St. Mainchin, 1410, D.S. (A), map 32, 41. *Site*—The modern I. C. church is on the old site.

240. KILLNACOMARBA, 1201, given next Kilmallock and Emlygrenan and separately from Cluencomarda, or Colmanswell. Perhaps Hakmys or Kilcomgan. See *infra*, section 242.

241. COLMANSWELL, OR CLONCOURA (46).—A parish in Coshmagh. Cluaincomairpbi, where the coarb and shrine of St. Patrick were taken by the "Danes," 845 (Wars G. G., p. 15); Cluaincomarbae 1172, (Contin. Tigernach); Cluencomarda, 1201; Thomas Payell gets protection at Cloncource, 1404 (Pat. R.); charter of Cloncourtha, Gortnetrossi, Kilcurnan, &c., granted to see, 1230-40 (B.B.L., p. 132); Cloncorth, 1291; Cloncourry, or Clontorthy, half once belonged to

¹ One of the fireplaces is shown, Plate XI.

² Rectory of Tankardstown, or Balitankard, or Bollinestownkard, belonged to the Treasurership, 1773: "Limerick Terriers," P.R.O.I., No. 17.

³ With Cathyrdimathin, Ballycullen, &c.

Bishop of Cloyne, dedicated to St. Colomannus, 24th November, 1410; Cluaincourtha, 1418; Cloncouro, 1615; Cloncoraha on 1657 maps, (D.S.(B.), 8). *Fabric*—It is 51 feet by 21½ feet; the east wall and part of the south had fallen before 1840. The south door had a flat arch inside, and a pointed head, cut out of two stones, outside. The well of Tobercolman gives the parish its name. It lies 100 yards to the south and under a large willow tree covered with rags (O.S.L., 8, p. 287, A. Curry).

242. **HACKMYS OR KILCOYN (55).**—A parish. Phil. de Prendergast and Henry de Capella had suit about tenements in Acmys, 1297; Sybilla, widow of said Henry, claimed thirds of Akynny in Ocarbry, 1309 (Plea R. 34 of xxv Ed. I., and Reliq. Repert., p. 32); Keilchuain de Achinis, 1410; Hakmys, *alias* Kylcommon, 1418; Kilcoyn, *alias* Haknis, 1615. It was from early times united to Kilpeacon. *Site*—Forgotten.

243. **KILCOGAN.**—It is given apart from last in 1418. Kellcomgan, 1201. The advowson of Kilconigon with Effin, 1240 (B.B.L., iv.); Keilchomogan, or Keilinghon, 1410; Kylcogan, 1418; Kilcomgon, 1615. *Site*—Forgotten.

244. **KILBREEDY MINOR (47).**—A parish in Coshlea. Kylbrigd Minor, 1291; Kilbride, 1302; consent to divide the land of Tancardus Russell in Kilbride Minor, Jordan Prendergast had enfeoffed him 1329 (Plea R., 149 of xviii Ed. II., m. 20). Kilbride Minor dedicated to St. Brigid, Feb. 1st, 1410. Also 1418 and 1615. *Fabric*—It had a nave and choir 30½ feet by 20 feet 9 inches, and 23 feet by 20 feet 9 inches. The middle gable and sides of the choir stood in 1840. There were two south windows, one with two heads ending in a cusp¹ cut out of one block of gritstone (O.S.L., 8, p. 284, and sketch).²

245. **EFFIN (47).**—A parish and prebend in Coshmagh and Coshlea. In c. 1240 Bishop Hubert granted to G. de Prendergast the advowsons of Killonigan, Kilbygly, and Effyng (B.B.L., iv.). Maurice de Rupefort granted back the church to Bishop Gerald, 1287 (*ib.*, p. 113), who assigned it to support two vicars at 60s., to say masses for M. de Rupefort and others, 1287 (*ib.*, pp. 111–113). John of Kent grants it first fruits, worth 100s. (C.S.P.I., iv., 127); John de Troye, late

¹ As at St. Kieran's Church, Cape Clear, Cork; a somewhat similar window, but with side cusps as well as the central one, is found at Kilbride, County Mayo. See sketch, O.S.L., Mayo (14 E. 18, p. 468).

² See View, Plate XIII.

prebendary of Effyn and Balygady, 1378 (Mem. R.); Ric. Colman was its clerk, 1378 (Close R.); John de Karlell, its rector, 1388 (Pat. R.); Gerald, son of Sir Maurice Ricardi, was granted the prebend of Effyng, and parish church of Moynach¹ (Cal. Papal L., iv., p. 476); Effyn dedicated to B.V.M., 1410; Effyn, Elphin, and Elohin (D.S. (A), 50-58; and Petty, 74). *Fabric*—It is locally "Temple," or "Kill Eifinn." It has a nave 53 feet long, and a choir 30 feet long, and both are 22 feet 8 inches wide. The middle gate, sides of choir, and south wall of nave stood in 1840; the middle wall had a lintelled window to the south, and a pointed door in the middle. The south window of the nave has a flat head (O.S.L., 8, p. 340).

246. KILBIGLY (55).—Same, and forming its southern part. Kilbygly, 1240 (*supra*); Cap. de Killygyll, 1418. Parish, 1586 (Peyton, p. 238). *Site*—Entirely levelled ("Mem. of Adare," p. 289). Reeves locates it in Brickfield (MSS. 1063, T.C.D., p. 95). Toberacran Well in Gortnecrank, and Lady's Well, north of Effyn church.

247. KILQUANE (55).—Parish in Coshlea. Kilcowan, 1291; Keilchuain, dedicated to St. Covan, the abbot, 1410; Kilcoone, Kilcone, or Kilcauane (D.S. (A), 50, 58; and Petty, 74); Cillcuain (O'Donovan). *Fabric*—It lies at the foot of the high hill of Caher, and had a nave and choir 38 feet by 22½ feet; the choir was 14 feet long. There was a small door to north side of the middle gable, with double lintel and inclined jambs.² Tobereendowney Well is in Ballyshaneboy, and Lady's Well in Ballyshanehehy (O.S.L., 8, p. 314).

248. BALLINGADDY (48).—A parish. Balygady, 1291-1302. John le Troy held the living, 1378 (see 245, *supra*). The Pope ordered that Ric. Bondwill, priest, be given a canonry and the perpetual vicarage of Ballagady, worth 10 m. Grant was treated as void, and transferred to Thomas de S. Jacobo, 1394 (Cal. Papal L., iv., p. 471); Ballinghaddie dedicated to B.V.M., 1410; Ballingaddin, 1657 (D.S. (A), 57). Baileán Dubhan, traditionally "town of the Black Thief, O'Dubhan" (O'Donovan). *Fabric*—It has a nave and choir 39 feet 4 inches by 23 feet, and 29 feet by 17½ feet. The west gable and sides of the nave remained. The two windows and door in the south, and one in the north, were defaced before 1840. There was an oblong light in the gable walls, 10 feet by 3 feet 4 inches, of regular masonry (O.S.L., 8, p. 293).

¹ In 1394, or Moynachyghacha, 1398, perhaps Rathcahill (Monagagae, 1633). and not Monagay: see sections 161 and 171, *supra*.

² Illustration, Plate X.

249. KILMIRIL (47).—Same. *Site*—Forgotten; but Well of St. Michael, Toberveheel, is shown.

250. PARTICLES (56).—A parish. It is of late origin, and, as the name implies, was formed of portions of other parishes. "The particles, viz., Chapel Mortel, Suycahill, Duynirish, and Dungadamon,¹" 1607, granted to Ed. FitzHarris, with the churches of Darragh, Ballingarrie, and Kilfoyne, and the lands of Kilfynan, Darragh, and Kilcruoyg, or Kilcrowe (Pat. R., an. xi Jac. I., *LII.*). Lewis, on the other hand, with no cited authority, says (vol. ii., p. 457) that the parish consisted of portions of the lands of the Abbeys of Buttevant, Kilmallock, Monasternenagh, and Adare (Map, D. S. (A), 59). We may deal separately with its churches.

251. LAURENCETOWN, OR ROSSARD (48).—Nova villa Laurentiston et Effyng, 1296 (Plea R.). 1655 (C. S., p. 21). *Site*—The trace of a church remains, and is marked on 1840 map.

252. SAICHAHILL CHAPEL, 1410; Sithcathyll, 1418, with Kilfin, Suycahill, 1607; Capella de Sochell, 1615. *Site*—Forgotten. Perhaps Sunville, with St. Anne's Well.

253. MORTLESTOWN (56).—Same. Martelestown juxta Gosiston, 1317 (Plea R. 119 of x Ed. II., m. 25, and Mem. R., vol. ii., m. 8); Martes, or Mortalestown, 1410; Capell Martell, 1418; Mortilleston, 1577 (Fiant, 3250); Chapell Mortell, in Particles, 1607; Mortellestown and Kilcroig, in parishes of Kilfinnane and Particles, 1657 (D.S. (A), 59). It adjoined Cloghnotfof on the S.W. (C.S., p. 24).

254. DUNGADAMUS, OR DUNGADDY.—Dunghadiehon, or Duneyris, 1410; Downganmore and Donerith, next Martell, 1418; Duynirish and Dungadamon, in Particles, 1607; Downgadmond and Down Innish, in Particles, 1834 (Lewis, ii., p. 457),² possibly separate chapels. He mentions a chapel-site in a fort near Chapel Martel.

255. KILDONAYN.—Between Ardpatrik and last, 1418; perhaps Kildronyn, 1317 (Mem. R., vol. ii., m. 76); Killdomayn, 1615; Keilonan, 1645.

256. ARDMACWELAN.—Next Kyllnacomarba, 1201; Ardmuillain, or Ardelwelain, church, 1410; Ardmafaelane, between Cluaincourtha

¹ Duneyris is given as an *alias* for Dunghadiehon, or Dungadmond, 1410.

² In Jasper White's list of "Dignities," 1645, these chapels appear as Keilonan chapel, Saycaithile, Dune-gaddy, and Dune Jores chapel. Martell and chapel of St. Martin were attached to the college of Kilmallock, with Atheneasy, Ballin-gaddy, and Kilbreedy Major.

and Ballytancard, 1418; Ardevolen, 1615. Father White notes it as destroyed and forgotten in 1650. It adjoined Fantstown (C.S., p. 18).

257, 258. THE CHAPELS OF ST. KYRAN AND ST. LATERNUS, 1410.—Father White notes them as forgotten in 1650.

259. ARDPATRICK (56).—A parish.¹ W. de Burgo granted it as part of Fontemel, 1199 (C.S.P.I., vol. i., No. 95). It appears in the lists of 1201, 1291, 1302, 1410, 1418, 1591, 1615, and 1633. Records are fairly numerous. Malachi, its rector, swore obedience to the bishop, 1263 (B.B.L., p. 44); Philip Harold was vicar, 1299 (Plea R. Cal., vol. v., p. 94); Robert f. Henry robbed the church, 1318 (*ib.*, 123 of xi Ed. II., m. 34). It was a small monastery, and owned Ballingowasse, Ballycowsing, Ballynanyne, and Balligertane,² “nup. converb. dom. relig. de Ardpatrick dissolut.” 1589 (Inq., 19). The “converb.” also held the hill, 30 acres of great measure, and 21 of small. The Langanes were hereditary coarbs (2 Inquisitions, xxxix Eliz.). The Down Survey (A. 57) gives a sketch of the church and tower, “Upon ye Ard Patricke are ye walls of a church and a watch tower,” 1656. The round tower had three storeys, and a broken top.³ Tradition, even in the eleventh century, said that the hill was granted to St. Patrick on condition that he should remove the mountain of Cenn Febraith. This miracle made the cleft of Belach Legtha (Trip. Life, p. 209). *Fabrio*—It stands on the shoulder of a steep ridge, with high ranges to the south. The ends had fallen in 1840. It was 85 feet by 24 feet. There was a north door 21½ feet from west, with a flat splay arch, and round-headed arch of gritstone, outside in which is set a later pointed door of limestone. In the south wall a deep recess, with a pointed arch, lay towards the east. At the north-east angle projected a south wing, 25 feet by 18½ feet; the walls, 3 feet 8 inches, now nearly levelled. The walls are of large blocks, and project 6½ feet beyond the west end; they are 18 feet by 5 feet. The broken round tower stood 39 feet from the north-west corner. It is 56 feet in circumference, and of good masonry, 11 feet high to north and east, and 6 feet to west; it had been badly breached when I saw it in 1877. Fitzgerald says that it fell a few years before 1827. In 1657 it was three storeys high, but broken. It was filled with

¹ Tulach na feinne, now Ardpatrick, “Colloquy of the Ancients,” *Silva Gadelica*, ii., p. 118, whence the Fianna marched to the Battle of Ventry.

² Ballinguosi, Ballincarra, Ballinanlanagh, Garricketeane, as in D.S. (A), 57.

³ See Plate XII.

rubbish 6 feet deep, which was excavated, but only yielded pieces of amber and brass, and oyster-shells.¹

260. **KILFINNANE** (48).—A parish. Kylfynan, 1291; Kilfennan, 1302; Keilfinny, or Keilfinnane, dedicated to St. Andrew, 30th Nov., 1410. "Kylfinan, the rector is the Abbot of Insula Molanfert," 1418. "It is accommodated with good trouts and eles by ye river Garagh, and it hath also the convenience of a markett at Kilfinane, where is a good castle, and the walls of a church, and an Irish Downe," 1655-7 (D.S. (A), p. 59). *Fabric*—The I.C. church is on the ancient site, near the great triple-ringed mote. The name of Kilfinnane is Drum Fighin in the "Book of Rights," *ante* 900, given with Treada na Riogh, the triple fort.

261. **DARRAGH** (57).—A parish. "Darrach Mochua, with the court of the monks of Limerick," is named as a boundary in King John's charter to Magio, 1185-1200 (*ante*, 86). Bishop Robert granted half the church of Dermeko to the Convent of "Insula Molhanwid alveo fluminis Blackwater juxta Jugellia" (Youghal, B.B.L., p. 113; see R.S.A.I. xxxiii., p. 313); Dermochi, 1300 (Justiciary R.); Darnecho, 1301; Darmocho, 1418. Ric. de Exon and Jac. de Bellofago, sheriff, enquire whether Isabella de Cogan and Garrett de Rupe, Lord of Fernagena, have rents, in Glenanlara and Dermeho com. Lym. (Mem. R., vol. ii., m. 62); Der M'Cowe, 1633; Darragh, 1659 (D.S. (A), 59). *Oapac*, 'abounding in oaks' (O'Donovan); Darragh, of Mochua. *Fabric*—A nave and choir, 60½ feet by 23 feet 3 inches, and 27 feet by 17 feet. The three gables and ends remained in 1840; walls, 2 feet 5 inches thick. The east window had a pointed light and flat splay of gritstone. Tobermochua (wrongly Tobermacduach on maps) dedicated to St. Mochua, patron, on August 3rd (O.S.L., 8, p. 86, A. Curry).

262. **KILLIN** (56).—A parish.² Keilfuing, 1410; Ecc Kyllin cum particula Sith Cathyll, 1418; Catan, *alias* Killin, 1615, being mensal to the bishop; Cill Flóinn, Flin's church (O'Donovan). *Site*—The modern I. C. church is on the ancient site.

¹ From Ardpatrick an ancient road ran northward, which, like that from Ardmore to Ardfinnan, was traditionally trenched by the horns of St. Patrick's cow.

² I omit Kileruaig (38), in Kilfin, Kileruog, or Kilerowe, 1667 (Patent R.); Kilerog (D.S. (A.), 59), because there is no trace of a church, and Dyneley calls it only "a wood" in 1681. See grants of Kilquoge, or Kileruoge, and Killeroake, or Kileruoge, 1666, to Capt. Robert Oliver and Chidley Coote (Act. Sett.). Kilquige wood is shown on several seventeenth-century maps, Coill na Cúicéir.

263. **MANISTER-NA-NGALL, OR KEALE (56).**—Same. Founded by Roche in the fourteenth century for Dominicans. Donough O'Dorgan was its last prior, 1558. "Spittle in Kilfinan, on it are the walls of a church or chapel; Abby Ballynegaule hath the walls of an old abby," 1657 (D.S. (A), 59). *Fabric*—It was 71 feet 8 inches by 21 feet 8 inches; the wall, $3\frac{1}{4}$ feet thick, and in fair preservation. The west door and two south ones had flat arches; the east window, a round-headed splay arch; the lights gone before 1840. The south and two north windows, round-arched lights and splays (O.S.L., 9, p. 199).

264. **EMLYGRENNAN, OR ST. MALO (48).**—Imelach Dregingi granted to Magio by Prince John, 1185; confirmed, 1200 (*ante*); Imlech Dromgi, 1201; Imelach Dreyne, 1302; Imelach Dreyne, to which Edward III. presented Hugh de Waldene, but Adam Harte was found to hold the living, 1346 (Pat. R.); Emiligrenan, or Ballaghgrinne, dedicated to St. Molluo, May 5, 1410; Imlagh Drynyn, 1418; Emelach Grenan, 1591. *Ōile* Ḡrionnion, 'Grynins (old) tree' (O'Donovan). *Site*—Church levelled; but St. Molua's Well remains near Balline.

265. **KILBREEDY MAJOR (48).**—A parish. Kilbride Major, 1291, 1410, 1615; Kilbride, 1302. Ric. Syward and Nesta, his wife, claim dower on Kilbryd Maior, 1318 (Plea R., 119 of xi Ed. II., m. 17). Suit of Robert Lenfaunt and Alex. and Wentliana Cadygan about messuage in same, 1324 (*ib.*, 144 of xvii Ed. II., m. 21); dedicated to St. Brigid, Feb. 11, 1410; Cillbríde (O'Donovan). *Fabric*—It is 63 feet by 27 feet; parts of west and south walls stood in 1840; the windows were defaced, and there were traces of another wall, 90 feet; the walls, 11 feet high, 27 feet long. The well was Tober na Doile (O.S.L., 8, p. 255).

266. **FANTSTOWN (48).**—Same. *Fabric*—A small church, 39 feet by 18 feet. The gables have an oblong east window and pointed west door.

267. **ARD KILMARTIN (40).**—Same. On the edge of Ballycullaun, near Bulgaden. Martin's chapel, 1291; Ballichuilean dedicated to St. Martin, Nov. 11th, 1410; Capella Martini, 1418; Ard-kilmartin in the Liberties of Kilmallock (D.S.(A.), 51); granted to Bishop William, 1667 (Act Sett.). *Fabric*—A ruined church.

268. **BALLYMOLRUAIN.**—Rectoria given next last, 1418; perhaps Ballymoliniam, 1336 (rental).

269. **ATHNEASY (40).**—A parish and old prebend in Coshlea and Small County. In Clu mail mic Uḡaine, on the border of the Deisi.

Judgment as to Athenysy Church given 1260 (Cal. Papal L., i., p. 370). Perhaps Ballyatheny, 1286 (C.S.P.I., p. 285). The parish of Anedes was fined £4 10s. for the escape of a criminal from its church, 1274–1277 (Pipe Roll, Ireland). Athnadessce,¹ 1302, John Staloun robbed Aghnedes Church, 1318 (Plea R. 123 of xi Ed. II., m. 34). In 1343 Eliza de Milton, as widow of Walter de Bermingham, claimed one-third of the “Baronies” of Nathirlagh, Athnedes, Lekdon, and Kilkede (Close R.). Philip Carran, chaplain, presented by Henry IV. to “Andes in Lym.,” 1405 (Pat. R.), Ric. Rolley (Raleigh), and others named as holding the manor and advowson of Andesshe, 1424 (*ib.*). Benefices reserved to John Harchor, rector of Athnedisse (Cal. Papal L., iv., p. 458). In 1408 Tho. f. Gerot was custodian of Manor and advowson of Andesche (Pat. R.). The prebendal church of St. Mary of Andesche is on the frontier of the marches of Limerick; “John Archer, the prebend, derived no benefit, through resistance of the Irish.” The church was destroyed, and ordered to be made a prebend during life of “Richard” Archer, the incumbent, 1409 (Pat. R.); Athenease, or Beallathenesigh, or Beallaneasy, dedicated to St. Athanasius,² May 2, 1410; Athenasse, 1418; Attinesie, 1615; Athenesy, 1657 (D.S.(A), 56); beul ata na nDeiri, ‘the mouth of the ford of the Deisi,’ i.e. the Deisi beag of Small County: see A.F.M., 1579 (O’Donovan). *Site*—A graveyard, near Elton bridge, with two earthen forts to the north, and “Lady’s Well,” quarter of a mile away (O.S.L., 8, p. 267). The remains of the old church of Athanessy stood in 1826 (Fitzgerald, i., p. 318).

270. ADAMSTOWN (40).—Same. It appears from Peyton (p. 12) to have been named Ballyhyward in 1586. *Fabric*—Part of the east gable and of a side wall of small rude masonry, 19½ feet long and 7 feet high, stood in 1840.

271–272. UREGARE (39) AND URIGEDY CHAPEL (40).—A parish in Coshmagh. There were two churches here, so closely connected that we combine their records. Urthegedy, held by Gerald f. Maurice, 1285 (C.S.P.I., vol. iii., p. 285); Euergarr and the chapel of Uirgedi, 1291; Urigari, 1302; suit of the Bagots as to Muchil-wrygedy and Lytel-wrygedy, 1317 (Mem. R., vol. ii., m. 47); Urigear, or Viridus,

¹ Even “Andeshe,” like “Anri,” for Athenry, 1402; and “Andes,” 1405 (Pat. R.).

² Either a random guess or a later dedication suggested by the name. It was St. Mary’s Church in 1409, and the well is still dedicated to Our Lady.

dedicated to St. Margaret, 20th July, 1410; Iwyr-garr and Capella Wrygydy, the rectory belonged to the prioress of Teachmolynd, 1418; Our-gare, an entire rectory, 1591; "Owergar, in Patria de Pobble un-kaght, aliter ffoxes country, and Iwergerry and Uryverygy," 1586 (Peyton, pp. 11, 248; Map, D. S. (A), 48). The ancient cantred of Iolegar, or Ioregar, lay round it, 1290; An iubar gearra 'the short yew' (O'Donovan). *Sites*—The western church, Uregare, was standing in 1826 (Fitzgerald, i., p. 323). It was entirely removed to build the graveyard wall before 1840, and after 1826, when the walls of the old church stood (Fitzgerald, i., p. 323); near it is St. Margaret's Well. The site of Urigedy lies at some distance to the east in a graveyard, beyond Greenpark, south of the fine old mansion of Ballygreennane Castle.¹

273. BALLYGRENNANE (32).—Same. *Fabric*—A late church said to have been built by George Evans after 1690. It is 19 feet 3 inches by 21 feet; had a pointed east window, an oblong south window, and a round-arched south door (O.S.L., 8, p. 107).

274. BRUFF (32).—A parish, brughnanbeiri, in 1420 (O'Huidhrin, note, 700). Brug, 1186 (charter of Magio); Brugh, or Broff, dedicated to St. Peter of Alexandria, 26 Nov., 1410; Burgh, 1418; Borough, or Bruff, 1543 and 1578 (Inquisitions on the Hospital of Aney). *Site*—It had fallen into decay, so was demolished by Lady Lucy Hartstonge, and a new church built on its site, 1776 (Fitzgerald, i., pp. 320-2). *Monument*—This monument, with the chapel, was pulled down, to be set up and better repaired in memory of Sir Thomas Standish, by his daughter's son, Standish Hartstonge, Recorder of Limerick, of the family of Southreps, Norfolk, 1676.²

275. TEAMPUILLIN (32).—Same. *Site*—A burial-ground.

276. DROMIN (39).—A parish; Opoman Uí Cleirchin (Ann. Inis-fallen); Opumuin Cleirchin, Uí Cairbre (A.F.M.) 1088. Dromin Claryn, 1291; Dromin Icherolyn, 1302; Almerica de Bellofago claims money off Dromynclerkin, &c., 1296 (Plea R. 22 of xxv Ed. I., m. 48). In 1325, R. de Burgo held Dromeler for Peter de Colgan and Tho., Earl of Kildare (*ib.*, 151 of xviii and xix Ed. II.). Dromuin dedicated to the Trinity, 1410, Map (D.S. (A), 44). The name means "Little ridge of the O'Clerens" (O'Cleirchens), sub-chiefs of Uí Cairbre Aodha³

¹ "Journal," Limerick Field Club, vol. i., part i.

² Bruff was united to Kilbreedy Minor, in 1754.

³ Cleirchin was father of Cairbre, chief of the Uí Fidgeinte in 1014 (A.F.M.).

(O'Donovan). *Fabric*—It is 50 feet 9 inches by 20 feet 2 inches. The east window, oblong, with a horizontal cross-bar and flat-arched splay. The side-lights are oblong, three north and two south. The walls, 13 feet by 2½ feet. At the west end is a "castle," entered by a pointed door in the gable, 26 feet high to the west, 12 feet 3 inches to the north; the south wall is levelled. It is, of course, a priest's residence. Trinity Well lies to the south-west in Ballynamuddagh.

277. **ATHLACCA (39).**—A parish. Athleketh was held by Maurice f. Gerald, 1285 (C.S.P.I., p. 285); Aylecach, 1291. Adam de Leyns, parson of Allekagh, gave land at Adare to the priory at that place, 1292 (*ib.*, iv.), 1306. Athlacath, in Ocarbry (Plea R. 32 of xxxv Ed. I.). Ric. de Aspale was rector, 1318 (*ib.*, 116 of xi Ed. II., m. 45). The Sheriff and Mayor, and John Gower, of Alacagh, are to collect cattle, &c., for the army against O'Breen and Macomarth, of Tothemon, 1377 (Close R.). In 1394 Ric. Bondwill, a priest, had defrauded the church of Athlacath of 15 m. Tho. Hunt had held living for two years without ordination, &c. (Cal. Papal L., iv., p. 471). Ahaleacagh dedicated to St. John the Baptist, 1410. Ardlackagh, 1633 (Map, D.S. (A), 45). *Antaeleacacé*¹ (O'Donovan). The flaggy ford of the Saimer, or Morning Star, River. *Site*—The I. C. church was built on the old site, 1813; and burned by "Captain Rock," 1822. *Monuments* of the Webbs and Lacys, 1632. Well of St. John the Baptist.

278. **ATHLACCA, NORTH (39).**—Same. St. Laurence's Church, in Ainailleca, 1410.

279. **KILBRUAINY (39).**—Same. In Tullerboy, Keilbruoigny, between Athlacca and Tullorboy, 1410. Lewis says it was built by the Templars on their manor of Ross Temple (i., p. 84). *Fabric*—It is 45 feet by 20 feet; fragments of the south and east walls, with defaced east window, remain; they are 11 feet by 3 feet. Well of St. Broney near it.

280.—**ROSS TEMPLE (31).**—Same. Kiltemplalain, near Bruff, 1410. Rostemple (D.S. (A), 49). Rosse Temple granted to Charles Ormsby, 1666 (Act Sett.). *Site*—A kyle burial-ground, and reputed templary.

281. **TEMPLE COLMAN, OR HOWARDSTOWN (39).**—Same. The place is the old Ballysiward and Culballysiward (Cooleen).² Another Ballyhubbarde, or Bollyhyward, Church lay in Adamstown (*supra*, 270),

¹ Also Ardlacagh, like Ardee, for Athfirdia; Ardsollas for Athsolais; Ardnurchair for Athnurchair.

² See also R.S.A.I., xxvii., pp. 404, 407.

and a third Sywardstown, in Oconyll, 1452, near Reyns and Rathkeale; Culballysiward was held by Keynsham, 1230 (B.B.L., 75). Bruce and Ballysyward Churches granted to deanery, 1250 (*ib.*, p. 73). In 1284 Alex. f. Godfred, of Anud, granted Culballysiward¹ to John de Sandford, Archbishop of Dublin, to which bishoprick they had been formerly granted about 1210 by Hamo de Valoignes, Lord of Iniskefty (Plea R. 14 of xviii Ed. I., m. 15, Lib. Niger Alani, *ms.* 1061, T.C.D., p. 828). Culbalisiward, in Ocarbry, was taken unjustly from John Dondon,² by M. f. Gerald, 1289 (Plea R. *l.c.*, m. 10). John, son of Peter Daundon, broke into and robbed the church, 1318 (*ib.*, 124 of xi Ed. II., m. 43). Balieyward was held by "the late Peter Daundon," 1319 (L.M.H. Estates R., 13, p. 36). Ballisheward, Ballihaward, or Rathieward, 1410; Balysyward, between Browrye and Athlackagh, 1418. The Dondons still held "Balleheward in *Small County*," 1586³ (C.S.P.I., p. 236). Hewardstown (D.S. (A.), 41). *Teampul baile hobairb* (O'Donovan, wrongly). Lewis calls it a templary, built in 1287 (i., p. 228). It is now called Temple Colman. *Fabric*—It is 73 feet 4 inches by 22 feet 3 inches; the featureless west end, and the north and south walls, the latter with a defaced window, stood in 1840; the gable and one wall have since fallen by 1901.⁴

282. KILBREEDY (38).—Same. In 1655 (Petty, Map 68). *Site*—A burial-ground.

283. CAMUS, "KYLE" (31).—A detached part of Monasternenagh. The grange of Camus and Cellseanig were granted to Magio in 1185 (charter). Camus, in Killoc deanery, dedicated to St. Senan, 1410. "Capella de Camus spect ad mon de May," 1418 and 1615. Camus, in Kreen, "parish,"⁵ 1586 (Peyton, p. 13). *Site*—A burial-ground.

¹ He was in the same year accused of neglecting to repair the bridge of the villate of Coulballysyward, in the "chapter" of Inskyfty and Rathgal (Plea R., an. xviii, m. 42), but was acquitted.

² I write with some hesitation all through this section. Coulballysyward, the property of John Goer, is named with Killeely, and connected with the de Lees family. This seems more westward than Howardstown, and suggests Sywardstown and Kiltulte, given in Oconyll, not Ocarbri, after Rathmacandan, near Rathkeale (in Reyns), 1452 (rental). Rev. Dr. George Stokes, in R.S.A.I., xxvii., p. 407, gives a careless and inaccurate note on this place, but does nothing to fix its position.

³ But Howardstown and Adamstown are in Coahmagh, not in Small County.

⁴ Killavickleusty in the vill. of Ballyhyward, is named 1594 (Inq. 52, temp. Eliz. ? xxxvii.).

⁵ Crean is in Glenogra, not far from Camus.

284. TULLABRACKY (31).—A parish and prebend in Coshmagh and Small County. Tullachbracc,¹ 1185 (charter of Magio); also 1201. Tholabreg, 1302; Tillabreaka dedicated to St. Molon, May 5th, 1410. Quit claim to Tulachbrec, 1276 (B.B.L., p. 91); Ger. Fanyin to present a fit "person" to church, 1317 (Mem. R.). In 1346 John de Bosworth was parson and prebend. John Eyterward succeeded, 1389 (Pat. R.). Tillaghbrek, 1405 (Cal. Papal L., vi., pp. 35, 84, 460); Tillabreaka, 1410. Tulla braise, in Bishopsland (O'Donovan), D.S. (A), 47. *Fabric*—It is 43½ feet by 21½ feet. West end and parts of sides stood, 1840. It was nearly levelled in 1901. Tober Mullana, or "Blunny's Well," lies near it. The modern I.C. church was built, 1819. The parish contains noteworthy early remains; a circle, &c., in Rockbarton, Grillagh dolmen, and Cahirguillamore; the Lough Gur circles lie near its border.

285. GLENOGRA (31).—Parish in Small County. In 1239 suit of Maur de Londres and Abbey of May as to two knights' fees in Glinogra (Close R.), Glynogre, 1291; Manor of Glenogyr, with Cathirgilmore, suit at Manor Court of Glenogyr, granted to its burgesses by Tho. f. Maurice, who d. 1298 (C.S.P.I., vol. iv., p. 254); Glinoge dedicated to St. Nicholas, Dec. 6, 1410. Gleannoſra, Ogra, a man's name (O'Donovan). *Fabric*—It is 69 feet by 21½ feet. The east window has three lights of various heights. The west end had a narrow slit 12 feet from the ground. There are doors in either sides 20 feet from west, and a window in each. A side building, 29½ feet by 18 feet, projects to south; its sides are down. It once held five glebes, endowing nine chantries, and had tombs of de Lacys, Roches, Bourkes, O'Gradys, and Fitzgeralds. Near it is a strong castle on the Camoge. *Description*—J. Grene Barry, R.S.A.I., xxv., p. 378, with view.²

286. KILLORATH (31).—Same. A townland.

The following Limerick churches are unplaced:—

287. BALLYHOWREGAINN, Dissert de,³ 1336. Given in the Limerick terriers as at Carrigeen. The service of Ballyhoregna was at Clonshire (B.B.L., p. 133). Another Ballyhorogane adjoined Cloghnetefoy (Cloghanadfof), D.S. (A), 59.

¹ There are Terriers of Tullybracy, 1698, 1756, and 1785 (P. R. O. I., No. 21, 24).

² See also O. S. Sketches, Co. Limerick, Nos. 9, 10.

³ As no church is named, I hesitate whether to give it a place, or to exclude it. The "Dissert" inclines me to the former action.

289. RATHOFERUS Church surrendered by Keynsham, 1237. Offargus manor covered Clonagh and Kilscannell. We find a Kylirodan, with Rathogonan, and a Kyldonyll in it, 1452 (rental).

290-296. The church lands of *Cealcoonata*, *Cealcongí*, *Ceallmor*, *Ceallconill*, *Ceallcrumtirlapan*, *Cealcodrighi*, and *Cellpian*, are named in the charter of Magio, 1185. The fourth is certainly a church, "cell of the priest Lapan." The first three may have been near Atheneasy (? "Athen" in charter). *Ceallconill* is with *Tulachbracci*. *Cealcodici* and *Cellpian* lay towards *Imelachdregingi*. *Ceall Crumtirlapan* was between *Bruff* and *Corbali*. Their identity I cannot establish, and do not care to suggest.

297. *LYSMUX* chapel, named with *Muycro* and *Browry*, 1250 (B.B.L., p. 73), as in See of Limerick.

298-299. *KILCULATH* ap. *Lym.*, Mary, widow of Odo de Barry, claimed it (Plea R. 140 of xvi Ed. II., m. 3), and *Kildonethath* (*ib.*, 32 of xxv Ed I., m. 15).

300. *DROMMOLUB* (elsewhere *Dromohibyle*, in *Mungret*) "benefices," perhaps *Temple Mungret*. It is mentioned in B.B.L., e.g. 1204.

THE EASTERN DEANERIES.

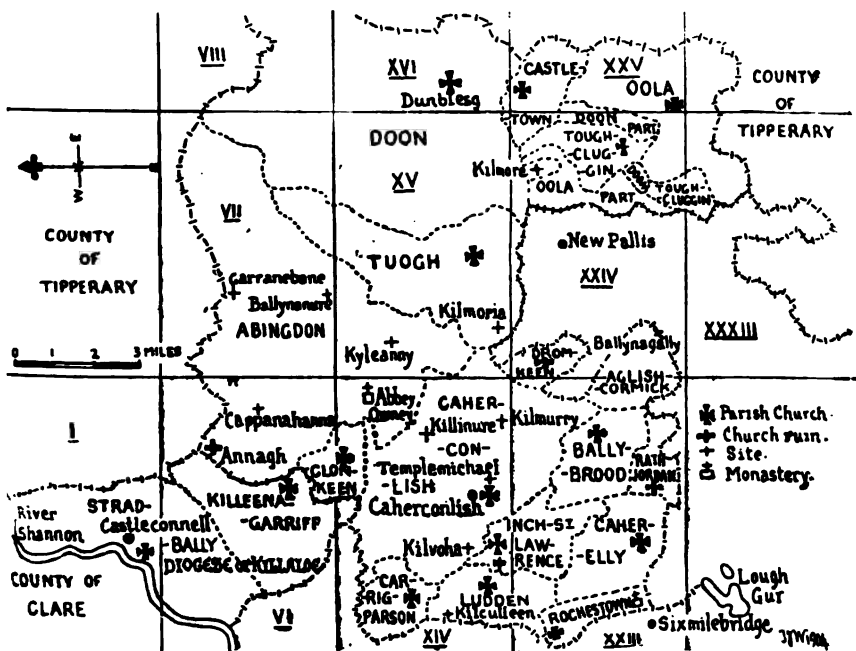
The eastern border of Limerick is covered by portions of the bishopricks of Killaloe, Cashel, and Emly. They roughly represent the old states of Ara, Coonagh, Uaithne, Grian, and Aherloe. The strange little corner of Tipperary Deanery, at Toughcluggin, is noticeable. The parts in Emly are the tribe-lands of the Uaithe Cliach, and the Eoghanaacht of Aine. The former paid to Cashel 300 hogs, 300 mantles, and 100 milch cows, receiving seven steeds, swords, and drinking-horns; and being the provincial king's chief officers of trust, they received from the Ardrigh six swords, shields, and steeds.¹ The *Ui Ciarmhaic* chiefs of Aine were free from tribute. The king of Cashel claimed the forts of Aine, *Dun Gair*, and *Loch Ceann*, at *Lough Gur*.² In the following survey we go southward along the border from the Shannon to the Galtees.

¹ Book of Rights, pp. 61, 71, 79.

² *Ib.*, 67, 87, 95.

IN THE DIOCESE OF KILLALOE.¹

301. STRADBALLY, OR CASTLECONNELL (1).—A parish in Clanwilliam. At its fort the grandson of King Brian Boru was murdered by the Prince of Thomond, 1174. William de Burgo, 1201, was granted five fees in the Toth, including "Castle Canick" (Castle Coning). "If he fortify the castle, and we desire to have it," adds King John, "we will give him a reasonable exchange" (Ware's "Annals"). The castle played



The North-Eastern Deaneries.

no brilliant part; it fell into the hands of the Bruces, 1315; into those of the parliament, 1651²; and of William of Orange, 1690; it was blown up in 1691. The church is called Idumyn, 1302; Castleconnell, *alias*

¹ The Latin is, of course, *Laonensis*, from Molua, or Dalua, a Dalcassian saint of the seventh century.

² "Parte parish of Stradbally W. Lord Borke, Barron of Castlecon, Irish Papist. The manor of Castlecon, both Portcrussies, Parcke, Stradbally, and Bohirkeyle, 6 plough lands with a castle, fishing weares, one mill, a Courte Barron and other privileges."—"Civil Survey," 1655, p. 3 (Clanwilliam).

Stradbally, *alias* Capella de Pdum, 1615; Idumyn, *alias* Stradbally rectory, inappropriate to the Earl of Ormond, 1633. Donald O'Mullynn was Vicar of Castra Conayng, 1412. *Site*—The I. C. church is on the old site, as shown in 1657 (D.S. (A), 2, 15).

302. CLOON ISLAND (1).—Same. A so-called "friary," of unknown identity, on an islet in the Shannon.

303. KILNESARRIFF (6).—A parish. Kilmacconarva, 1201; Kilmaccongarub, 1302; Johan, widow of J. de Burgo, claimed a messuage, lands and woods in Kilmachegarff Sym., 1311 (Plea R., Reliq. Report, p. 63); Killenegarve, 1633; Killicknegarruff, 1657; Kilnegarruff (Map, D.S. (A), 3, 16; Petty, 65, 66). It is there shown as roofed. Killgaruffe and Clonkeen granted to S. Molyneux, Oct., 1666 (Act Sett.); O'Donovan renders it Cillinnangarb,¹ but it is evidently called after a founder—"Maccon Garbh." *Fabric*—It stands on a little stream. It is 36½ feet by 22½ feet. The east end fell before 1840. South window, with trefoil-headed light and oblong splay; it is of grit-stone inside, and limestone outside. The west end has a round-headed light and a bell-chamber, with an ogee-head cut in one stone. The walls, 16 feet by 3 feet. It is a fifteenth-century building (O.S.L., 9, p. 25, and sketch No. 15).

IN THE DIOCESE OF EMLY—DEANERY OF OWNEY.

304. ABINGDON, OR ABBEYOWNEY (14).—A monastery and parish in Oweybeg. The district is Uaiðnecliað, 914 and 1107; variant forms—Wetheney, Wodeny, or aspirated as Huheny, Huerthern, and Owey. Theobald f. Walter, the Butler of Ireland, granted a charter to the monks of Woden before 1199. He grants Woden y O'Cathelan, Wodeny Oiffian, Widenifidenurde. The town of Clonkean, from the water of Molkerne, Buttium, near Karkenlis, &c., "For the souls of Henry and Richard, Kings of England, John, Earl of Morton, Hubert, my brother, Archbishop of Canterbury, Henry Walter, and Matilda, my parents, Matilda, my wife, and all my antecessors and successors." It was enrolled in 1544. (Full copy MSS., T.C.D., F. 4, 22, p. 24.) The charter of W. de Braose granting to Theo. Walter, Eirimum (Ormond) Areth Wetheni, Wetheni hokathelan and Wetheni hoiffennan, 1201. (Facsimile N.M.I., vol. ii., No. lxxvii.), Huhene, 1199 (C.S.P.I., No. 9.

¹ I may note the curious phonetic, "Imelachyur," 1273 (Pipe Roll, No. 6); and "Imelaghywar" (Imelað lubaip) in Plea Roll 134 of xiv Ed. II., 1321, m. 3. The ecclesiastical Latin name is, of course, Imelacensis.

496). The abbey was peopled with monks from Savignac, 1206; burned in 1342;¹ in 1550, by O'Carroll; and in 1647, by troops of Lord Inchiquin, when it was stormed. The last abbot was John O'Mulrian, 1565, 69 and 94 (C.S.P.I.); Uaiúne, 1199 to 1287 (Wars of Torlough); Uaiúne uí Maolpáin, 1452 and 1585 (A.F.M.); Woney O'Mulrian, 1586 (Peyton, p. 253). Granted to the Walsh family.² Abbey Owthneybeg,³ 1657 (D.S. (A), 29; Petty, 66). *Fabric*—This fine abbey was levelled by certain vandals to build Abingdon House. There is a sketch by Thomas Dyneley, c. 1680.⁴ It was a noble cruciform church, with lofty gables, and the usual heavy square tower at the intersection. The south transept had a high triple window, with a round light overhead, and had buttresses at the angles, and two pointed windows in its west wall. To the north lay the domestic buildings of which the Walshes' little chapel is recognisable. Dineley adds that "the ruin is worthy the sight of the curious"; at the west end was a small unroofed chapel with the Walsh tomb, 1618 (still well preserved); Dulamus Barry's tomb, 1633 (still extant), which stood in a chapel in the north transept, "to the left as you went up to the altar of the abbatial church." William Riian's (Mulryan's) monument, 1632, was to the right of the altar; and to the left, a double recess with trefoil arches and an ornamental hood, topped by a rose. I found the Walsh chapel with two compartments (20 feet 4 inches by 19 feet 10 inches, and 19½ feet by 14 feet; the walls, 16 feet by 3½ feet). The long foundations of the church barely rose over the field, and some great masses of masonry remained in the cemetery, which covers the site of the east end of the building. The bridge has a tablet of Ellice, widow of Sir Edmond Walshe. *Descriptions*—Dineley, 1680, in R.S.A.I., vol. vi., N.S., p. 278, derives the name as corrupt for "Antony Abbey." The monuments of Dulamus Barry, 1633; and Mac David Barry, 1766, by J. Grene Barry, *ib.*, xxi., p. 50; also P.M.D., vol. i., p. 436. Lenihan's "Limerick," p. 717, for Walsh tomb.

305. CAPPANAHONNA, KILLEEN (6).—Same. *Site*—A children's burial-ground, near the dolmen of Tuamanirvore (W. C. Borlase, "Dolmens of Ireland," vol. i., p. 46), and the Clare River.

¹ Ann. Nenaght.

² Peter Walsh, at his death in 1575, held the rectories of Woney, Karkinlish, Ballynety, Rajordan, and Charysley, in Limerick, and eight others in Carlow.

³ Petty, Map 29, adds to the description that in 1655, "There is an abbey part whereof is thatcht," in the Manor of Abbey Owthneybegg.

⁴ Plate XII.

306. GARRANBANE, KILLEEN (7).—Same. *Site*—A burial-ground on the Clare River, on the edge of Tipperary.

307. BALLYNANURE, KILLEEN (7).—Killinure, 1657 (Petty, Maps). *Site*—A burial-ground.

308. KYLEHANNY (15).—Same. *Site*—A burial-ground on Tower Hill.

309. CELLRATH, near the Mountain of Clare, in Ara Cliach. St. Patrick, *c.* 430, desired to remain "beside Clar at the rath of Corbre and Broccan"; he was refused, but a cell was founded there by his disciple, Colman (Trip. Life, p. 201). Perhaps at Garranbane or Cappanahonna; if not, even at the southern Kilrath (363).

310. TUOGH (15).—A parish. The Manor and Castle of Toghe, *ex* Grene, which had been lately taken from robbers called "the Oolde¹ children," were granted to Thady MacBrian, of Grene Ogonagh, 1544 (Fiant, 453). Tohe Ishegrene² Rectory, 1553 (Inquis.); Twogh, 1655 (Petty No. 66; D.S. (A), 30).³ Tuat, a district (O'Donovan; but he does not give the "Ishegrene"). It was united to Abington, 1776. *Fabrie*—The east gable, 18 feet wide, and 26 feet of the sides, stood in 1840. The walls, 12 feet by 3 feet. The east window had two pointed lights, but the shaft was gone. A side wing ran south from the gable, and had a similar window (O.S.L., 8, p. 447). Well of Toberbreedia.

311. GORTAVILLA, OR KILNACARRIGEEN (15).—Same. *Site*—A burial-ground.

312. KILMOIRE, KILMORIA, OR PALLISBEG (15).—Same. *Site*—A burial-ground.

313. DOON (16).—A parish in Coonagh. The ancient Dun bleisc. The fort is still extant. Fintan, son of Pipan, was granted Dun Blesce, *c.* 580, and there founded his church. He was a disciple of Comgall. The prebend of Dunleisg, with Templebredon, Grean, and the chapel of Liscormuke, was held by Rev. Matthew MacBryen in 1559 by papal provision (Fiant, 84). *Site*—Canon O'Hanlon says that about 1855 an old church stood opposite the priest's house, near the Convent of Mercy. It is now tilled ("Lives of the Saints," i, p. 45). At it was buried Eamon a Chnoic Ryan, 1690 (Fitzgerald, i., p. 280). (Map, D.S. (A), 55).

¹ *i.e.*, of Oola ("Wlde, or Oolde").

² Perhaps Aos Grene. Asgrenan in Peyton, p. 241. Tuogh appears in very corrupt forms, *e.g.* Xoghhexgrene and Zoghtexgrene.

³ Killina and Kilmeale (Petty, Map 66; D.S. (A), 30) are names in this parish.

314. KILMOYLAN (16).—Same. Killmuline, 1655 (Petty, 66). *Site*—It has a well, Tober Fintan. The saint's day was Jan. 3 (Calendar of Oengus).

315. KILMORE (25).—Same. It forms a spur projecting into Tuoghcluggin. *Site*—A burial-ground.

316. CASTLETOWN, COONAGH (25).—A parish in Coonagh, named from the MacBriens' Castle. *Fabric*—It is of the fifteenth century, 49 feet long; the walls being 10 feet by 3 feet. The east window has a pointed light and oblong splay. The south wall has a slit near its east end, and a defaced door; the west end fell before 1840 (O.S.L. 9, p. 430).

317. OOLA (25).—A parish. Ulaob and Uibla, 1285-7 (Wars of Torlough). Wlys and Wilde chapel, in deanery of Wethney, 1302. Nicholas Fanning was granted Owlys, 1542 (Fiant, 311); Thady MacBrene, of Ullay, chaplain, 1551 (Fiant, 881), Owlo all repaired. In deanery of Tipperary, 1615. *Site*—The church was in the graveyard, near the railway, and was levelled before 1840. Ulloe Church ruins stood in 1826 (Fitzgerald, i., p. 281).

318. TUOGH CLUGGIN, OR CLUGGIN (24).—A parish. Tohtclogyn, in Tipperary Deanery, 1302; Twogh Cloigin Church, down, 1615; Tuat an Cluigin, 'country of the little bell' (O'Donovan). *Site*—It was levelled before 1840. Tobernacruhauneve, 'the well of the Holy Cross,' was near the graveyard.

319. CLONKEEN (14).—A parish in Clanwilliam. It has been asserted by Lord Dunraven and Miss Stokes that it was the ancient Cluain cáin móimoc,¹ which O'Donovan placed in Eoghanacht Caisil. O'Connor's army in 1135 came to Clonkeen in ships,² according to Dunraven (Notes, ii., pp. 113-115). The "Annals" make it plain, however, that O'Connor made first an extensive raid through Limerick, and not merely one for five miles from the Shannon to Clonkeen. It is "Clonkenyn Chapel, down, in Carkinlis Deanery," 1615. Cluonkeen was in ruins, 1657 (D.S. (A), 14). What early records of this very usual name refer to this church I am unable to decide. *Fabric*—An interesting little Romanesque oratory of the late eleventh century. It is 46 feet by 17 feet 10 inches; the walls, 14 feet by 3 feet 10 inches, with antæ at each corner. The east, north, and two south lights had

¹ The Calendar of Oenghus and Leabhair Brece, p. clxxxi (ed. Stokes), say, "Mo Dimoc, i.e., of Cluain Cáin Arad, in Munster, i.e., of Ross Conaill," Dec. 10.

² The stream apparently could never have been navigable, even for boats.

round-headed splays and lights; the south ones defaced, and the east replaced by two pointed lights. The west door is of three recessed orders; the arch highly decorated, with dog's-tooth mouldings and beadings.¹ *Descriptions*—Dunraven, ii., p. 113, and Plate cxix. Report of Board of Public Works, 1880–81, p. 93; both illustrate the doorway.

320. CAHERCONLISH (14).—A parish. It was once a walled town, with four castles, and the ruins of a "college." A fortified gate stood till not long before 1826 (Fitzgerald, i., 285). Carkynlys, 1259 (Plea R.); Cártaipcinbliop, 1285–7 (Wars of Torlough), when its castle was stormed and burned by Torlough O'Brien, king of Thomond. He "faced for rampart-guarded solid stone Cathair cind liosa." Inquisitions about persons killed in this raid are numerous. They are usually described as "slain at Karkynlys by Terdeluach Obreen, and other felons." The harbouring of the Irish by de Burgo, of Castle Connell, and the abbot of Wetheney, and the plundering of "Karkenlys Church," are fully recorded² (Plea R., vol. ii., p. 126, xviii Ed. I., m. 31; in 40, p. 135, &c., &c.). Records are numerous. Karkynglissi, in Wethney, 1302. Murage to provost and bailiffs of "Catherkenlyshe, as lying on the marches, with the Irish rebels on every side" (Close R.). King Edward's charter is preserved, Nov. 9, 1358; Carkynlis deanery, 1615. The rectories of Carkynliahe, Killyvorly, Rathioridan, and Cayrelly, granted to Walter Ap. Howell, 1552 (Fianta, 1020). The parishes of Caherconlish, Luddenbeg, and Willestown United, 1791 (L.M.H.). *Fabric*—T. Dyneley gives a sketch in 1680. It shows a ruined wing, with five-stepped battlements. The rest had a cross-shaped light and pointed door, and a triple window of oblong lights.³ In 1840 a fragment of the east end, 12 feet high and 7 feet long, stood, supported by a vault. The I. C. church covered the rest of the site. *Monuments*—Gabbett and Bourke. Theo. Bourke and his wife, Slaney Brien, "1441" (*recte*, 1641); mentioned also by Dyneley; and Annabel Gould, and the relatives of John Maunsell, 1662 (see Fitzgerald, i., p. 285).

¹ See Plate XIII.

² Mr. Bartholomew, "official of Emly," was accused of having prevented the opening of wills, and tampered with the goods of deceased persons. He took advantage of the raid to take 8s. from Aney and 2s. from Karkynlys, when the church and cemetery were broken. Nic. O'Doworthy also took 40 pence from the executors of Ade Wrgan, and 2s. from said church, 1287. Plea R., 1289, m. 10.

³ See Plate XII.

321. **TEMPLEMEIL** (14).—Same. Temple Mighill, in Clanwilliam, granted to John Friend, Oct., 1666 (Act Sett.). *Site*—Foundations, 60 feet by 30 feet; in a burial-ground.

322. **KILLAVOHER** (14).—Same. Cillabotaip in Skahard. *Site*—A children's burial-ground.

323. **KILMURRY** (14).—Same. *Site*—The modern R. C. church was built in 1820 on the old site.

324. **KILLINURE** (14).—Same. Cill an Iubair (O'Donovan). *Site*—Many human bones were found near the dry well of Tobermolagga, on the cultivated land.

325. **CARRIGPARSON, OR WILLESTOWN** (14).—A parish. It is a reputed Dominican or Franciscan House; "William's Chapel," with Karkynglise, in Wethney, 1302; Willestowne, in Emly, 1591 (Valor); Carrigparson, or Willestown, Dec. de Carkinlis, 1615. Its grants are almost inseparable from Ballynambraher, *q. v.* (*infra*, 329). Towrani, or Tooreen, in this parish, with a fishery on the Cammoge, belonged to the Franciscans of Ballynabrahur, 1586 (Peyton, p. 255). *Fabric*—Only 6 feet of the north wall stood in 1840; the foundations were 35 feet by 21 feet. In 1655 it had a detached tower and spire.¹

326. **LUDDENBEG**² (14).—A parish. Ath-coinn-Lodain, 1116 (Synod of Rath Breasail). Lodone and Lodyn Church, 1302. Tho. Norreys, R. de Clare, Lord of Any, and others seized cattle, &c., for the army camped near Lodyn to resist the Scots (under the Bruces), 1315 (Plea R., 1317, vol. v., p. 27); Luddenbeg, 1591; Ludden Church, down, 1615 b. Luidin (O'Donovan). *Fabric*—The east wall, 24 feet wide, with 32 feet of south, and 28 feet of north, wall, 10 feet by 4 feet, stood in 1840; the east window had two pointed lights. Fitzgerald mentions rude carvings of the Crucifixion in 1826 (vol. i., p. 289), which had vanished fourteen years later.

327. **KILCOOLIN, OR KILCULLEN** (14).—Same. Kilcowlin, 1657 (D.S. (A), 26). *Site*—A "kyle" burial-ground.

328. **ROCHESTOWN** (23).—A parish. A monastery of Dominicans, often confused with Willestown and Ballymwillin (see 325, 336), or, as Archdall says, of Carmelites (Mon. Hib., p. 432); Rochestown, part of the commandery of Aney, 1578 (Fiant, 3250); Rochestown, formerly part of Ballynumrare parish, 1586 (Peyton); Rochestown Church, in Caherkynlis deanery, 1615; Roachestown, 1655 (D.S. (A)

¹ See Plate XII.

² R. S. A. I., vi., N.S. (1867), p. 197. The view also shows the castle.

24, Petty, 65); *baileanpoirtici* (O'Donovan). *Fabric*—The church walls remained, 1826 (Fitzgerald, i., p. 291), but were levelled before 1840. Toberfuaird, or the cold well near it, was supposed to be curative, if not holy. It was closed by John Croker, 1830 (O.S.L., 8, p. 362). For grants, see Ballynambraher.

329. BALLYNAMBRAHER, OR BALLINGOOLA (23).—Same. A Franciscan Friary, near Sixmilebridge, founded in thirteenth century for Conventual Franciscans by the Clangibbon, on the north bank of the Cammoge. In 1544 "Monasterium fratrum juxta Ballinbraher et monasterium fratrum de Ballywilliam" were granted to Thomas Browne (MSS., T.C.D., F. 4, 25, p. 304). Grant to Robert Brown, of "the site of the Friars Minor of Loghger, *alias* Ballynybraher, and of the Friars Minor, of Ballywillin, in Conaght" (Coonaght), Feb., 1544 (Fiant, 405). "The Abby of Friars," to the north of Lough Gur, 1589 (Hardiman, Map 56), granted to Trinity College, Dublin, 1596 (MSS., T.C.D., F. 4, 25). It was called Ballynambraherbeg to distinguish it from Friarstown (*ante*, No. 57). *Site*—Two featureless fragments of wall stood near the river in 1840.

330. INCH ST. LAURENCE (14).—A parish and prebend. Edmond Braynof, of Emly, appointed canon and prebendary of Dysirt Luran, in same, with thirty-eight gold florins yearly, 1363 (Cal. Papal Petits., i., p. 469); T. Obroggy got the living of Esterlawran in Emly, 1405 (Cal. Papal Lett., vi., p. 34). Ynsin Laurence, prebend, 1583; St. Laurence parish, 1615; Isert, or Inshin, Laurence, 1657 (D. S. (A), 23; and Petty, 65); *lnip an Labnar* (so O'Donovan, but really *Oireapt*). *Fabric*—Part of one end, 6 feet high and long, and 5½ feet thick, of large stones, stood in 1840 near St. Laurence's Well, his day being August 10th.

331. CAHERELLY (23).—Parish. Caherelny, 1296 (Plea R. 24 of xxiv Ed. I., m. 4); suit of N. de Interberg about lands in "Ohatherelky" (Caherelky), 1299 (*ib.*, m. 17); Katherelky, in Wethny deanery, 1302; presentation claimed by Almeric de Bellofago v. Abbot of Wethney, 1323 (*ib.*, 144 of xvii Ed. II., m. 9). It was claimed by the latter from the bishop of Emly in 1342. Caherelne, in Caherkynlis deanery, covered with thatch, 1615 (Map, D.S. (A), 22). *Cataipeillibe*, fort of Ailltheach, so O'Donovan, with no cited authority, and most doubtfully (in view of "elke"); others, with equal confidence and lack of record, say "Cathair Ailbe," or "Kill-cathair Ailbe," from St. Ailbe, of Emly. *Fabric*—The middle gable and sides of the chancel stood in 1840. It is 32 feet by 20 feet; walls, 20 feet by 3 feet. The two south windows had large pointed lights

divided by mullions. The chancel-arch was pointed and of well-cut limestone. Founder, traditionally St. Ailbe, possibly from misunderstood name. *Monuments*.—Mathew Heo, 1717—a curious slab (see P.M.D., ii., p. 523); and the vault of the Furnells.

332. **RATHJORDAN** (3).—A parish. Rathjordan, in Wethney and Natherlach deaneries, 1302; Rathjourdan, in Kylkyllane parish, 1586 (Peyton, p. 27); Rathsherdan, in Owney deanery, 1615 A, or Caherkynlis deanery, 1615 B (Map, 1657, D.S. (A), 21); Rathjordan, Jordan's Rath, from the ancient family (O'Donovan). *Site*—The building levelled; the Well of St. John the Baptist, Tober Eoin Baiste, near it.

333. **BALLYBROOD**¹ (23).—A parish. Perhaps the chapel of Bourewode, in Wethney, 1291; Ballybrood parish, 1657 (D.S. (A), 20; and Petty, 66), granted to J. Maunsell, 1667 (Act Sett.). *Fabric*—A small portion of the east end stood in 1840. The I. C. church was built, 1807; burned by Rockites, 1822; and rebuilt, 1823. Mr. E. B. Fennessy, in a letter to Mr. J. Grene Barry, says that the old church was an oblong heap, like that at Milltown.

334. **DRUMKEEN** (24).—A parish. Dronchyn, near Cathery Bathe-lach, *ante* 1250 (B.B.L., p. 105). Drumkeen belonged to Nic. de Interberg, value 80 m. (Fitzgerald, ii., p. 397, from Plea R.); suit of Paul de Hynderberge and Jo. Harold about Drumkeyn, taken into the king's hands, 1323 (Plea R. 142 of xiv Ed. II., m. 27; and 149 of xvii Ed. II.). *Fabric*—It stands on high ground; the east gable, 17 feet 3 inches wide, and 21 feet of side wall, 10 feet by 2½ feet, stand. Rude east window, with flat arch. A tablet records its repair in 1717 by Rev. Richard Burg (1693 to 1717), Lord Bishop of Ardagh, as his burial-place (Fitzgerald, i., p. 284; O.S.L., 8, p. 396); Tobereendoney Well is half a mile from the church.

THE DEANERY OF GRIAN, OR GREEN.

335. **AELISHCORMICK, OR BALLYNEGALLY** (24).—A parish in Clanwilliam, Coonagh and Small County. The chapel of Liscormuck, 1291, Liscormyg, 1302, held with Gryen and Tuath Clugin, 1558 (Fiant, 84); Aglishcormick and Eglishecormick, 1657 (D.S. (A), 20; and Petty, 66, 67); Aneaglaip, (O'Donovan). *Site*—There are no remains, save the glebe of Ballynegally.

¹ Killinourary, on east border of Drumkeen and Kittilie, or Kiltalee, in Eglishecormick, and Kilcagh, on the north border of Ballybrood (D.S. (A), 20; Petty, 67), in 1657, may be church sites, but there is no definite proof.

336. **MILLTOWN, OR BALLYWULLIN (24).**—Same. In Coonagh. It is said to have been founded for Carmelites by Nellan O'Molloy (Mon. Hib., p. 432). Dyneley sketched its ruins in 1680. They were then a low, central tower, with double lights and corner pinnacles partly broken. A wing (perhaps to west) has in its gable a double light over an elaborate doorway. Long walls extend to a gate on the right (? south); and across a cloister garth, or yard, is seen a parallel wing, with gables. All, even then, was greatly broken.¹ Even in 1840 one old man alone remembered its ruined walls in an untilled patch of ground. Mr. E. B. Fennessy describes the site as a rath-like mound, 150 feet by 21 feet, used for burial till 1890, when the rough tombstones and the surrounding walls were removed to build fences.

337. **GREAN, OR PALLAS GREAN² (24).**—A parish in Coonagh. Grian, in *Aradhac*, c. 450 ("Trip. Life," p. 203); Ḡrian,³ 914 (A.F.M.); Gren manor granted to the Bishop of Emly, 1216; granted to Maurice Fitzgerald, the justiciary, 1233, and a fair established, 1234 (C.S.P.I., 962, 715, 2045, 2183); Grena church and deanery, 1302. Agnes de Valence was deprived of Estgrene, worth 10s., by Tatheg O'Brien, but got damages from T. de Clare in 1287 (Mem. R., 1306). In 1318, Galfrid Harold, rector of Grene, rescued a prisoner, and was tried for it (Plea R. 123 of xi Ed. II., m. 34); and John, Earl of Kildare, called on the Abbot of Wethney to appoint a proper parson to the vacant church (*ib.*, m. 18). Greane, 1586 (Peyton, p. 1); Green church, down, chancel repaired, 1615. Ḡrian, or Cergrene, people of Grene (O'Donovan). *Site*—The modern I. C. church is on the old site. Thomas Dyneley, in 1680, gives a view of the church.⁴ He shows a nearly levelled wing, with a round-headed door, and double-light window in the low side wall; to the right is the chancel, in repair; near the west end is a north door, with a pointed arch, and ornate hood

¹ Plate XIII.

² There is a well, Tobernarughilla, and an alleged graveyard near Linfield House (O.S., 24).

³ For the legendary "Grian of the bright cheeks" (a suspiciously solar heroine) and the wild legend of the sons of Conall and their transformation by her into badgers, see Dr. Joyce's "Irish Names of Places," Part II., chap. xiv., p. 242. Her *sidh*, or fairy fort, is known as Seefin, whence "Pallas," usually understood as "fairy fort" among the peasantry. The hill of Grian was at first called "Cnoc ne Guradh," or 'champions' hill.'

⁴ Plate XII.

part of south wall, 14 feet long, and 9 feet by 3½ feet of old-looking masonry, stood in 1840 (O.S.L., 8, p. 122).

340. **KILTEELY** (33).—Parish in Coonagh and Small County. St. Patrick, with his disciples Muin and Lommchu, came to Tedel, where Lommchu founded Cèll Tidil Church at the saint's desire, c. 450 ("Trip. Life," p. 204). It is a reputed templary. In 1321 N. and Juliana de Lees claimed dower on Kiltyle, or Kyltyl, from John Ulf (Plea R. 133 of xiv Ed. II., m. 78, and several other entries). In 1324 Lucas and Agnes de Netterville made similar claims (*ib.*, 38 of xviii, m. 9). In 1325 William Bole was vicar of Kyltyle (Mem. R., vol. xxiv., p. 290). *Site*—The modern R. C. church stood on the old site in 1826. It was a reputed templary (Fitzgerald i., p. 282).

341. **BALLINLOUGH** (32).—A parish in Coonagh. In 1289, W., bishop of Emly, who had mortgaged the farm to Lucca merchants, stayed at the church of Ballilogo when the sheriff seized all his horses and twenty plough oxen (C.S.P.I., vol. iii., p. 260). Balylogh, in Grene Deanery, 1302; Ballynlocha, 1558 (Fianta, 84), and Ballyenlogh, 1568 (*ib.*, 1258); Balleinlogh, or Ballelogh, in Grene, 1615; Ballenloghy, united with Aney parish. The glebe of Ballinlogh is called Gorteglish in the trustee maps, 1688 (No. 17). *baileanlòca* (O'Donovan). *Site*—It was on low ground, probably once a lake. It had nearly disappeared in 1840. It was 55½ feet by 21 feet; walls, 3 feet thick. The well was Toberbrighde. A mile south of the church stands a dolmen on Cromwell Hill;¹ not named, as the people say, after the Protector, but an old mediæval name, Cromglin.

THE DEANERY OF ANEY.

342. **BALLINARD, OR CAHERHUSOC** (32).—A parish in Small County at Herbertstown. Catherussoc, 1251 (Plea R. xxxvi Hen. III.); Cathyr Hussoc, held by late Thomas de Clare, 1287 (C.S.P.I., p. 204); Catherussoc, in Grene, 1302. In 1325 Cathyrussoc was held by Philip de Ade (Plea R. 127 of xiii Ed. II., m. 3). Grant, of 1541, of Kayroorney, Kayrfussoke, Kylcalane, and other church livings to Nic. Fannynge (Fianta, 311). Lease of Kairefussoc and others as above, the appurtenances of Aney Commandery to W. Apsley, 1578 (*ib.*, 3250); Ballynarde, or Ballynamrare, 1586 (Peyton, p. 16). Caherfuishag or Bailinard Church uncovered, 1615 B. The tithes of

¹ Fully described by W. C. Borlase, "Dolmens of Ireland," i., p. 49.

Ballynard, or Caherflassoge, granted with Cahercorney, Kilcullan, and Kilfrush to W. Neave, 1708 (Pat. R.). The name is said to mean "weasel's fort," *Catair Fearpoige*. *Site*—It stood on a hill, and was only remembered as "the old abbey" in 1840, being then entirely levelled (O.S.L., 8, p. 181).

343. CAHERCORMEY (28 & 32).—A parish. Cathercornii Grange, 1185 (Charter of Magio); Kathercorny, 1260 (Plea R., xlv Hen. III., m. 8); Cathercorny, in Grene, 1302. It was held by Ric. de Clare, James de Caunteton, Ric. de Rally, and Peter Lengleys, 1318 (Plea R. 117 of xl Ed. II., m. 6; and Reliq. Repert., p. 115); Cahercurnyde, 1539; Cahercorny Church uncovered; chancel down, 1615 B. *Catair Coipne*, Corne's fort (O'Donovan). *Site*—Modern I. C. church on site. *Monument*—To Ed. Croker, aged 70; died, 1723.¹

344. KILCULLANE (32).—A parish. "Magnahengi, from the ford of Scivil towards to the east, with the whole marsh to Kilkilin and Kealkillin itself," 1185 (Charter of Magio); Kilcallane, 1578 (Fiants, 3250); Kylkyllane, 1586 (Peyton, p. 27); grant of Kilkellan to Edward Browne, 1607 (Patent R.); Cillcattlan, Cathlan's Church, locally Kilkillaun (O'Donovan). *Fabric*—It has a nave and chancel, 33 feet by 20 feet, and 18½ feet by 12 feet 10 inches; walls, 10 feet by 3 feet; east end down; all features defaced; choir arch pointed, 11½ feet high, 7 feet 10 inches wide (O.S.L., 8, p. 68). It is shown with one gable and roofless, 1657 (D.S.A., 38; Petty, 68).

345. CHAPEL OF NALCH, with Kilkillane, 1291; Cap. Nalhinch, with Cathirusok, 1302: see (*infra*, 357) Cellmalaich.

346. BALLINAMONA (32).—A parish. Sweetman identifies it with Chapel Mora (Moortown), 1302. Suit of Ed. and Juliana Berkeley and Tho. O Turdilly for dower on Moreton prope Any, the property of Walter de Boneville, 1327 (Mem. R., i Ed. III., m. 10); Moreton Rectory, with Anee Commandery, 1578 (Fiants, 3250); Morestown, or Ballymoneyny, 1607; Moretown, 1615; Ballinemony (D.S.A., 39). There is a Rosconodstown or Moortown in Connello, 1703 (Patent R.). *Fabric*—The church and castle stood in 1827. (Fitzgerald, i., p. 306.) There is a stone circle not far to the east of the church.

347. ANEY, or KNOCKANEY (32 & 40).—A parish. A battle of the Aradha and Ui Fidgeinte at Aine,² 666 (A.F.M.). It was said to be

¹ P.M.D., vol. i., p. 437.

² Cormac mac Cuillenan, in a poem, *ante* 902, says that Conal Eachluath, A.D. 377, held Aine, Drum Corunoid, Dun Gar (Lough Gur), Cashel, Maig, and Duncaarna (Fort on Old Head of Kinsale).

named from Aine, a famous banshee¹ (O'Donovan). An Augustinian priory was founded by John f. Robert, 1190–1200. In 1226 Geffry de Mariscis was granted an eight-day fair on his manor of Anya (C.S.P.I., No. 1415). The prior of Lanthony claimed the advowson of Anye (*ib.*, No. 1555). It was reserved for the dower of Alienor, the queen consort, 1253 (*ib.*, No. 271). Tho. de Clare exchanged the manor of Bleburg, in England, for Any with Warin de Bassingburn, 1278 (*ib.*, 141). In 1356 Richard Chaumberlayn was vicar of Any (Pat. R.). In 1309 Robert Bugod had a suit with John Dun for repair and maintenance (Plea R. Repert., pp. 40, 50). An Inquisition of 1413 finds that Any Barony was worth 10 m. It had been in the hands of the late Earl of Ormond by exchange of W. de Clifford, knight, and was violently occupied by David f. Maurice, knight, and then by Lord Thomas le Botiller, Prior of (St. John of) Jerusalem. The manor, in 1566, paid £46 4s. "in old money called haulface." There are two elaborate maps showing Any town with the church and two castles in 1657 (D.S.(A.), 31 and 33).² *Fabric*—It is said to date from 1400. The chancel undertaken by Sir Tho. Browne, 1615. The nave was then roofed. It was in good repair, 1840. The R. C. church was built 1836.

348. NEW CHURCH, LOUGH GUR (32).—Same. The place is called *Ḡair*, *ante* 900 (Book of Rights). It is remarkable for great stone circles, cromlechs, pillars, and fort sites.³ There are two castles. The grange of Loc Geir, which belongs to the vill. of Locgeir, with a moiety of the Island of Dungeir, 1185 (Charter of Magio); Loych Gir, 1287.

¹ In the Colloquy (Silva Gadelica, ii., p. 225) the place is "Sid Eogabail, or Knoe Aine." The banshee, by biting off the ear of her too ardent wooer, Olioll, "Olum," gave him his nickname, "bare ear." Bunches of hay and straw are (or were) carried on poles in her honour round Knockaney Hill, and to the little mound on its summit. The O'Briens, Dillanes, Creeds, Laffans, O'Deas, and Fitzgeralds of the district claim her as an ancestress (*Revue Celtique*, iv., pp. 188, 189). The meadow-sweet is her favourite flower.

² Aine is identified as Carn Feradaigh in Rolls Ed. of "Chronicum Scotorum," pp. 81, 117, 143.

³ The folk-lore of this lake is of exceptional interest; see C. G., *Revue Celtique*, iv., p. 188. The dolmens and circles are described by Rev. Mr. Lynch, in Cork Hist. and Arch. Journal, i., p. 296. Beaufort, in Trans. R.I.A., xv., p. 138. Borlase, in "Dolmens of Ireland," vol. i., pp. 47–49. Gentleman's Magazine (reprints), ii., 119 (i.e. 1893, pp. 105–112). Twiss's "Tour in Ireland" (1775). Fitzgerald and Macgregor's "History of Limerick," vol. i., p. 298. T. Crofton Croker, "South of Munster," 1824, p. 63, barely alludes to them.

Fabric—The New Church is a late fifteenth-century building. Temple Nua, 56½ feet by 21½ feet; walls, 12 feet by 4 feet. The east window has a round-headed splay and double light. In the south is a window with oblong splay and round-headed light. The west end has a window-slit and bell-chamber (O.S.L., 9, p. 230). It is usually stated that it was "founded by Rachel, widow of Henry, Earl of Bath," 1679; but the chapel is shown in the map of 1590 (probably by Jobson; it is 56 of the Hardiman set, T.C.D.). Lady Bath, however, gave "a vestment, a rich pulpitt-cloth, silver chalice, plate, bible, and service book" to her "chapel in the kingdom of Ireland," 1679. Dyneley, in 1680, shows it in his view of Lough Gur. It there has the bell-chamber shown as at present.¹ *Description*—R.S.A.I., xxxiii., p. 194; view, p. 195, by J. Grene Barry; also Fitzgerald's "History," i., p. 311.

349. BALLINAGALLIACH (40).—Same. South of Lough Gur. "Manister na Galliach juxta Aney," or Nunstown, usually confused with "Monasternagalliach in Oconyll." See section 134, *supra*. It is said to have been founded by the Fitzgibbons for Augustinian nuns. *Site*—Only a little fragment of wall, 14 feet high, 9 feet long, and 3½ feet thick, stood in 1840; the foundations showed it to be a very small building.

350. RATHANNY (40).—Same. Rathcanny, in Any Manor, 1287 (Inq. of T. de Clare). Suit of Ric. de Clare and Rob. Bagod as to whether Thomas, Richard's father, held land in Rathtany from Ingram de Fokermound. (Mem. R., vol. ii., m. 83). Robert Bagot of Rathtany had granted it to Ingram (Plea R. 154 of xix Ed. II., m. 7). *Site*—A burial-ground.

351. KNOCKSENTRY.—Same. Not marked on 1840 map. It had a burial-place, with thirty stone-lined graves (R.S.A.I., xxx., p. 374).²

352. BAGGOTSTOWN (40).—Same. Gerald, Earl of Desmond, held Baggotstown, 1583 (Inq. 11); Ballyvogodicke, Ballinvogodock, or Bogodestown, 1586 (Peyton, p. 11). *Site*—A burial-ground.

353. HOSPITAL (32).—A parish. The Hospital of Aney was founded by Geffry fitz Maurice, or Geffry de Mariscis, 1215–1226, and dedicated to St. John the Baptist. Records are numerous; whence

¹ R.S.A.I., vol. vi., N.S. (1867), pp. 194, 195.

² There is another Knockentry in Clanwilliam, O.S. 6.

we learn that it had a preceptor, provost, chamberlain, cook, free servants, hayward, &c. Curious grants of board and lodging, 1335–1349 (Mon. Hib., Archdall, p. 4). In 1311 the prior of the Hospital of St. John of Jerusalem impleaded R. de Clare for imprisoning his friar, Adam, an Irishman (Plea R., iv Ed. II., m. 21). John Thome was the preceptor, 1365–9; he contested the right of W., Bishop of Emly, to make visitation of the House or Hospital of Aney (Cal. Papal L., vol. iv., pp. 15, 52). In 1541 Eneas O'Heffernan, the last preceptor, was made Bishop of Emly, and the Hospital dissolved (Fiants, 212–285). In 1566 it was leased with its rectories of Ane, Moreton, Ballymon(a), Ballinlough, Kilkallan, Carecorne, Ballynarde, Broo, Rochestown, Knocklong, and Templebridan to John Cockerham. In 1578 the commandery of Anee, late Hospital of St. John of Jerusalem, was granted to W. Apsley, with the rectories of Balleneclouighe, Loinge, Kilfrusce, Kayrecorney, Kairefusssock, Kicallane, Moreton, Owlys, Browe, Carnowrie, Rochistown, Rathronan, and Mortellstown, with their lands (Fiants, 3250); *Oirpibeal* (O'Donovan). *Fabric*—The “abbey” stood in the village; the church was 86 feet by 21 feet 9 inches, and had two windows in the east end—one pointed, and one defaced. There were five defaced windows in the south wall, and doors in each side at 20 feet from the west end. The walls were 22 feet by 5 feet; part of the belfry tower stands at the west end. It was as broad as the church, and 10 feet deep, with two vaulted floors, being 30 feet high to the south, and 10 feet to the east. There was an effigy of a knight, 7 feet long, supposed to be the founder (O.S.L., 8, p. 322).

354. *KILFRUSH* (40).—A parish. Kilfroys, 1287 (Inq. of T. de Clare); Kilfrusce in Grene Deanery, 1302; Jacob. Stak robbed Kilfrosce Church, 1318 (Plea R. 123 of xi Ed. II., m. 34); Kylfrushe, 1586 (Peyton, p. 14); Killfruishe, down, 1615; *Cill Fhuir* (O'Donovan). *Site*—It was known in 1840; and some remembered fragments of wall there. Its graveyard, in Mr. Gubbins' demesne, had then been levelled by him. The well was Tobercolman.

355, 356. *VILL. OF MICHAEL AND CARRIGMICH* Churches in Grene deanery; the hospitallers were rectors, 1302. *Sites*—Unknown.

357. *CELLMALAICH*.—The “Tripartite Life,” p. 199, tells how St. Patrick dwelt in Hui Cuanach, and rebuked the British Culdee, Malaich, for want of faith; he prophesied that Malaich's “Conghabhaile should not be lofty.” The author adds that it lay in the north-east angle of the Southern Deisi; its name is Cell Malaich; five cows can

hardly be fed there. It evidently lay in the eleventh century near the borders of Coonagh and Small County. If it were the Capella "Nalech" of 1302, it lay adjoining Kilcullane and Ballinard, possibly near Kiltely. No trace is known.¹

358. KNOCKLONG² (41).—A parish in Coshlea. It is called Cnocluinge, hill of the camp, and Opom Oam Gaire in the Book of Lismore, being the traditional scene of the battle (A.D. 250), when the Ardrigh Cormac mac Airt endeavoured to tax Munster. Loinge, 1568 and 1578 (Fiant, 1258 and 3250); Knocknelongie, 1584 (Desmond Roll), Long, 1657, with sketch of the castle (D.S. (A.), 55). *Fabrio*—The church was entirely defaced before 1840; only a few fragments stood in 1903. It is 45 feet by 25 feet; the walls are of very large stones. The east window is rectangular, and there is the gap of the south door. The well was dedicated to SS. Patrick and Paul. (O.S.L., 8, p. 277.)

DEANERY OF AHERLOE.

Géaplač.—Natherlach, 1291; and Yharloragh, 1592 (valor); Atharlach,³ Aherloe, Arlo, 1615, lies on the roots of the Galtees, their peaks rising over its beautiful glens for 3000 feet above the sea. The Deanery runs northward, being almost bounded on that side by the railway.

359. BALLINAHINCH (40).—Same. *Site*—A burial-ground; and Tober Gobnait, or Deborah's Well. Pattern, August 3rd.

360. BALLYSCADDAN (41).—A parish. Bealanescadane, 1657; in explanation of D.S. (A), 54. Ballinescaddan, 1666 (Act Sett.). Locally Bealač na Sgaban, Ford mouth of the herrings—*luous a non luendo* (O'Donovan). There is no reason to adopt this difficult translation, as a family called "Scadan" and "Hareng" is found in Tipperary in mediæval times, and the place may be named from one of these. Some say that this was Kilrath, near Duntrileague. The

¹ Another possible church site, though not so named, may be given in a note, "Kildromm, in Com. Lym et Dioc. Imelac." In 1317 W., Bishop of Emly, consented to the partition of Kyldromyny, or Kildrum, granted by Florence, late Bishop of Emly. Nicholas Nef, a free tenant, claimed that he was unjustly disseised (M.R., vol. ii., m. 76, 79).

² Knockloynye, in Bellaneneashe parish (*sic*), in Cossetlerogh, or Cosaherleroo, 1584 (Peyton, p. 237).

³ Etharlaige, in Dindsenchas, 118: *Revus Celtique*, xvi., 1895, p. 69.

Church of St. Calman; no proof is given. See 363, *infra*. *Site*—A graveyard, having monuments of the Ryans, 1705–79.

361. GALBALLY¹ (49).—A parish. The church of Natherlagh, Galbally (*alias* Aherloe), with the chapel for the rector, 1291. *Galballe Cataplaig*, 1471 (A.F.M.); “Englishtown Aherloe” (O’Donovan). The town of Galbally, “consisting of the walls of a very fine house or castle, lately well fortified, a grist mill and a tucking mill upon the river Aharloe, and a few Irish cabins,” 1657 (D.S. (A), 52, explanation). *Fabric*—The church is unusually long for its width, 136 feet by 25 feet 9 inches; the east window had a double trefoil-headed light, and flat splay arch. There are three rude and late south windows, and a door. The walls, 18 feet by 14 inches. All of the latest fifteenth century (O.S.L., 9, p. 212).

362. DUNTRILEAGUE (49).—Same. The fort appears in the oldest records as *Duncrileag*, because three pillars surrounded the well in it. “The Colloquy” in the Book of Lismore (“*Silva Gadelica*,” ii., p. 129) mentions this legend, and calls it *Dun tri liag*, or *Dun ar sleibh* (see Joyce, “Irish Names of Places,” i., p. 253). It is *Duncrileag*, 1002 (Keating), 1054, when it was burned, and 1088 (A.F.M.). See also Dundirleke chapel, 1346 (“Gormanstown Register,” p. 145d); *Dontrileg* and *Dontrylege*, 1615a; *Downtrilege* (D.S.(A.), 52. *Site*—The graveyard exists near the ancient dun, and contains a large vault of the Massys.² The well is of St. Patrick.

363. KILNARATH.—Near the last. Caeman of Cillratha, near Duntrileague (Reeves MSS., T.C.D., 1063, p. 118). “To Imelach dregingi, and so to Cillnarath, as the Saimer (Morning Star) runs from it” (Charter of Magio, 1185). This stream rises in Ballingarry parish, to the south-east of Emlygrenan. *Kylneragh*, 1281 (Pipe Roll, Ir.).

364. GARRYENLANGA.—A ruined church is shown at Duntrileague, to the north, 1655–7 (D.S.(A.), 50–52; Petty, 73). Grant of Garrylanga and Duntrelant, 1667 (Act Sett.). *Site*—Unknown. Hardly Laraghlaw.

365. BALLINGARRY, OR GARTH (49).—A parish.³ *Garthegriffin*, in

¹ Kilinane and Kilsankanlan are mentioned as in Galbally, but churches are not shown (Petty, map 74, D.S. (A), 52). Killinane and Kilgreane are found on the 1840 map of this parish, along with Kilbranagh, on the west border of Galbally.

² This family is of ancient Cheshire origin from Hamo de Masci, temp. William Rufus to Gen. Hugh Massy, of Chester, who came to Ireland, 1641. From them, with many other branches, sprang the Barons Massey and Clarina.

³ Locally “Glenbroghane” parish, O.S.L., 9, p. 210, and 1821 Census.

Natherlach, 1291; Garthe, in Natherlagh, 1302. Alicia, widow of Griffin de Rupe, had a suit about lands, a mill, turbary, and pasture in Garthegriffin and Olethere, Kilboygnam, and O'Tran; elsewhere given as Garthegriffin, in Olehere; Foxnoceston,¹ in Any; and Olethill, in Kilboynagh, 1294-7 (Plea R. 22 of xxv Ed. I., m. 48; 32, m. 7, and 36 of xxvi, m. 20). Ballingarrie Church, 1607 (Pat. R.). "There is noe habitacon or other thing remarkable in this parish, save only a mill seate and the walls of a church upon the lands of Ballingarry," 1656 (D.S. (A), 53). *Fabric*—The west gable of a rude ruined church near SS. Peter's and Paul's Well,² 20 feet 3 inches wide: featureless.

366. LARAGHLAW, OR TEMPLENALAW (49).—Same. Evidently the Lathrachlanii, not far from Emylgrenan, 1185, in the Charter of Magio. Alicia de Rupe in above suit also claimed Laythyrathlau from Peter le Botiller (Plea R. 32 of xxv Ed. I.). Suit of Abbot of Magio and R. de Kylsynyge as to advowson of Layraglaue Chapel, 1302-3 (Cal. Mem. R., p. 513). The Chapel of Lathreclay was held under papal provision by Mauric MicBryan, Clerk, 1559 (Fiants, 84). *Fabric*—A ruined church, not far to the north of the Fort of Dunglare, the Claire of the Book of Rights, *ante* 900. It has a well of SS. Peter and Paul. The dolmen of Deerpark is not far to the south-east (Borlase, vol. i., p. 50).

367. BOYNOGH.—An unknown church in this district. Boyanagh, in Natherlach, 1291; Kilboygnan church with Garthegriffin, 1295-6 (Plea R. 22 of xxv Ed. I., m. 48), again given with Garthegriffin in Olehere; Olethill was in Kilboynagh, 1306 (*ib.*, 36 of xxvi); John Brymechgean collated to Boyonach and Cnoegraffing, though he had shed the blood of a priest, 1413 (Cal. P.L., vi., p. 438); Boynogh ecclesia ignota, 1615B. Castleboynagh, confirmed to Ed. Walsh, of Owey, 1595 (Fiants, 6004), seems to be a different place, and perhaps led the compilers in 1615 to place Boynogh, an unknown church, between Caherelly and Willistown.

368, 369. CORRAY, GLYNDOWYN.—Chapels given with Duntrileague and Kilbeheney, 1346-7. Chapel of Coragh, 1291. An Inquisition was taken before the attorneys of Sir Tho. de Lucy at

¹ Sexnotestown, as in same Rolls (42 of xxvii Ed. I., p. 72).

² Ballyfroota has also a graveyard and cromlech lying to the east of Doonglare, with a well called Tobereendoney. Borlase, "Dolmens of Ireland," i., p. 50.

³ Perhaps the Gleanoneolain, near Emylgrenan, granted to Magio, 1185 (charter).

Narlach, Wednesday after Martinmas, xx Ed. III., giving the chapels as Corray, Dundirleke, Glyndowyn, and Kylmyhin ("Gormanstown Register," p. 115). *Sites*—Unknown to me. Curraghdin and Curagh were in Galbally, 1657 (D.S. (A.), 52), and one may be Corray. There is a Glennahaglish in Ballylanders, but no church site is marked.

370. BALLYLANDERS (49).—A parish. This is named from the ancient family de London, de Londiniis, and de Loundres. *Duilleon-oapa* (O'Donovan). Ballylondery and Ballylondry, 1657 (D.S. (A.), 54; and Petty, 74). *Fabrics*—The gables were broken to level of walls before 1840, but the north walls were intact. It is 50 feet by 20½ feet. The east window and south door had pointed heads cut out of single blocks; the south windows and north door were defaced. Near it lay Lady's Well (O.S.L., 8, p. 86).

371. TEMPLEEN (49).—Same. Perhaps Killane, on west border of Ballianlondry, 1657 (Petty, 74). *Site*—It was levelled before 1840.

372. ARDARINNAGHTA (49).—Same. A church site.

373. GLENNAHAGLISH HOUSE (49).—Same; but no burial-ground or church. Perhaps Glyndowyn.

374. KILBEHENY (60).—A parish. The Chapel of Kylmyhyn, 1347 (*supra*, 368); Coillbeithne, Birchwood,¹ 1502 (A.F.M.); Kylvehenyom, Lim., forfeited by Mathew mac Murrough in rebellion, 1591 (Inq. 34). A ruinous castle called Kilvehoiné, or Kilvehenny, 1607 (Pat. R.); Keilbeheny, 1657 (Petty, 74). *Fabrics*—It stands on high ground among great hills on the border of Limerick and Cork, near their junction with Tipperary. It is 48 feet by 21½ feet. The east window had a double light and round splay arch. The south window and south door splay were oblong, and the door arch pointed. The west door was defaced before 1840; and the north wall had a round-headed window 4 feet from the east gable. The walls were 12 feet by 3 feet. It lies beside the river Funshion.

375. KILBEHENY (58).—A burial-ground, said to mark the older parish church, and half a mile to the north of the last.²

376. CORBALY chapel between Caherelly and Caherussok, 1302.

¹ The peasantry derived it from a legendary Beithne O'Brien.

² *Revue Celtique*, iv. (1879-80), gives interesting notes on burial customs (such as crossing the spade and shovel on the grave, &c.) at Kilbeheny, and compares them with similar customs near Broadford, in Clare.

377. CHAPEL OF EUSTACE, 1302, near Oola. The Hospitallers were rectors.

378. DOONMOON (40).—Donmown Church, in Grene, 1291; Dunminoyne, between (Knock)Long and Kilfroys, in Any Manor, 1287 (C.S.P.I., vol. iii., p. 204); Downmoone, *alias* Ballineheinsy (D.S.(A), 55, 55a). *Site*—Perhaps the graveyard of Cloheen, near edge of Doonmoon.

379. LINFIELD (24).—In a detached part of Ballyneclogh. There were traces of a church called Roibig Cholunmille, or Teampul na Cairrge, and Teampul pairc na Cairgge, and a well named Tobar na Drochairigh (O.S.L., 8, p. 115).

380. KINNETHIN.—Ware and Archdall give this abbey as in Limerick. The abbot to be distrained by sheriff of Limerick at suit of Robert de Bland, Michaelmas, 1304. I believe this to be a mistake for Keynsham, as the forms Kentham, Kennetham, &c., are common in the thirteenth-century Rolls; and the abbey held an unreasonable share of the benefices and lands of Limerick.

381. THE FRANCISCAN HOUSE OF GALBALLY, though lying in County Tipperary, is so close to the border and so bound up with Galbally itself that I feel compelled to notice it here. It was founded about 1220–30 by Donchad Cairbreach O'Brien, King of Thomond, and was dissolved in 1543, when it was granted with its three gardens, six messuages, six acres of arable land to John of Desmond (Pat. xxv, H. VIII.). Father Mooney tells of the capture of its monks in the belfry, and their execution by Sir H. Sidney's soldiers, in 1570. *Fabric*—The church has a nave and chancel, 44 feet 10 inches by 23 feet, and 38 feet 10 inches by same. The east window had three pointed lights, 12 feet high; two pointed south lights, and a plain north door. The belfry stands at the intersection; the arches are 27 feet high, and 8 feet 4 inches wide. There are small slits in the lower part of the tower, and trefoil-headed lights above to the north and south. It is 17 feet east and west; the piers, 4 feet 2 inches thick. In the nave the south window and door are defaced, and a staircase of thirty-six steps, lit by narrow slits, leads up the south-west angle to the top of the wall (O.S.L., 9, p. 219).

CONCLUDING NOTES.

(A).—ARCHITECTURAL REMAINS.

Having completed the actual Survey of the Churches, it seems profitable to condense into a few brief notes the salient features of the ruins, and collect a few facts as to their plate, furniture, and bells.

Earliest among the buildings seems the venerable church of Killulta, on its high, abrupt rock, near the wooded ridge, where the most modern of the castles of Limerick towers above its reedy lake. Killulta has one remaining feature, its east window, with an angular head of the most primitive description. Similar angular heads, but of two pitched stones, occur on a window in Dysert Oenghus round tower, and one in Cloncrewe Church.¹

Slightly later are the features of the defaced churches of Donaghmore and Clonshire, the better preserved north-east church at Mungret, and the church of Kilrush. All have doors with inclined jambs and large lintels; the three latter have also round-headed windows, with, as a rule, inclined jambs. The round tower of Dysert has a round-headed window, with a linteled splay and a round-arched door; the latter we shall note again. There is a round-headed inclined jambed window at Mahoonagh; it has a hood moulding. Good examples of moulded windows, round-headed as to splay and light, occur in several churches, *e.g.* Killeedy, Kilmacow, and Clonkeen, but the east window of the latter has a later light. There is a neatly-built round-headed door at Clonelty, and one with several recessed arches was remembered as at Killeedy a century ago. The massive remains of the door of Dysert Church have a plain raised band running round the jamb and lintel of a type so common in round towers, and found at Tomgraney Church in Clare, *ante* 969, and other churches of the ninth and tenth centuries.²

Limerick is poor in those attractive archways of rich Romanesque work of which we find such fine examples at Clonmacnoise, Monaincha, Dysert O'Dea, Rahan, Inchagoill, Iniscaltra, Clonfert, &c. The doorway of Clonkeen is of this type, dating *circa* 1100,³ and an unexpected ornament of flutings and pellets occurs on the door of Dysert tower. The latter structure is certainly original; as the

¹ Plate X.² For all these, see Plate X.³ Plate XIII.

courses bend for some distance in order to bond with its blocks, it may, however, be questioned whether the ornament is not a later adornment cut on a plain, raised face.

We now reach the transitional period when (some ten years before the Norman invasion) the Gothic first appeared in the Cistercian Abbey of Monasteranenagh, *circa* 1159. Here we find the large plain-pointed arcades under a round-headed clerestory; these also occur in St. Mary's Cathedral twenty to thirty years later. The Cathedral also retained till our time its recessed west doorway, two of the orders having one keystone in common; the capitals retained traces of late twelfth-century foliage. It was destroyed in a "restoration," and (though it is hard to believe) this act of vandalism took place in the episcopate of one of the most eminent Irish antiquaries of that day. Two well-moulded round-headed west lights are extant in the nave of Monasteranenagh. The combined triforium and clerestory of the Cathedral have round-headed arches, and rest on an arcade of unnecessary but impressive bulk.

Beautiful examples of the early Gothic were found in the fine triplet window and Gothic chancel of Monasteranenagh, and the church of Abbeyowney (1206) (only preserved in Dyneley's view). Only the north piers and spring of the arches remain at the first; the second was demolished by the Stepneys, to the sad loss of local antiquaries and artists. To the thirteenth century we may assign several remains of beauty and great interest, such as the noble five-light window in the Dominican Abbey, and other features in it, and the collegiate church of Kilmallock, the beautiful west door of Old Abbey, the massive White Abbey of Adare, the curious old arcaded church of Shanagolden,¹ and other remains in the Hospital of Aney, and lesser churches.²

The fourteenth century gave us in the main the deeply interesting Black Abbey of Adare.³ The fifteenth has left its mark everywhere—in a number of chapels, in the Cathedral, at Mungret, Adare, in dozens of parish churches, and chapels. The finest remains of its buildings are the Franciscan Houses of Adare and Askeaton, and their beautiful cloister arcades and sedilia. The first convent is fortunate in the preservation of an abstract of its original register by Father Mooney. It was dedicated, 19 Nov., 1466, accepted at the provincial chapter of Moyne, and consecrated Michaelmas, 1466, with the cloister, sacristy,

¹ Plate XI.

² Plate XVIII.

³ Plate XII.

and cemeteries, save a portion for the burial of those excommunicated. Thomas, the Seventh Earl of Kildare (d. 1478), and Johanna, his wife (d. 1488), were the founders. Cornelius O'Sullivan (d. 1492) built the belfry (an afterthought); Margaret Fitzgibbon (d. 1483) built the great chapel of the Virgin; John, son of the Earl of Desmond, built the lesser chapel; O'Brien Ara (d. 1502) and his wife built the dormitory; Rory O'Dea and his wife the cloister; Thomas, Knight of the Glen, and Honora Fitzgibbon, his wife, built the infirmary, and she added 10 feet to the length of the choir, and M. O'Hickey made the beautiful panels and stalls on the north side of the choir; and built the refectory. Certain chapels of the Cathedral, and portions of Askeaton, and, perhaps, Friarstown Convent, seem to date in the same century as the great destruction in which the monasteries perished, and the churches, even the Cathedral, lay more or less in ruin till some sort of peace and order arose for a short interval under James I.

ROUND TOWERS.—The supposed round tower of Limerick, on certain lists, was originally intended for Dysert Oenghus. A round tower, however, stood at Singland; there is a sketch of it, 1657, in the Down Survey, showing it as broken. There is a fine example at Dysert, which we have described in section 98, and figured on Plate XII. The rude and greatly altered tower, embedded in the west end of the collegiate church of Kilmallock,¹ and the broken stump of the one at Ardpatrik, complete the list. Ardpatrik tower, as we have noted in section 259, was three storeys high in 1657.

BELFRIES.—Many belfries, after 1200, appear to be afterthoughts, inserted between the side walls of the churches; such are the towers of the Cathedral, the Franciscan² and Augustinian Abbeys of Adare, Ballingarry, and evidently Askeaton. Others were added at the sides and ends, as at Monasteranenagh, Rathkeale, and Hospital, of all of which little trace remains. Askeaton church has a rude, square belfry, with an octagonal upper storey. The great towers of the White Abbey, Adare, and of Abbeyowney, and probably the original central tower of Monasteranenagh, were integral parts of the design. The tower of Milltown, like that of Abbeyowney, only survives in Dyneley's sketch, 1681; and the massive tower at the west end of Abbeyfeale, in the maps of the Down Survey of 1657.³ Munget

¹ See Miss Stokes's "Early Christian Architecture of Ireland," p. 90.

² Plate XIII.

³ Plate XII.

retains a plain, small, and rather flimsy tower, attached to the north wall of the residence near its junction with the nave.

To complete our list we must name the towers of the Limerick churches:—that of the Franciscan House at the west end; of the Dominican House, in the middle of the church; and belfry towers of the churches of St. Munchin, St. Nicholas, St. John, and St. Michael are shown in the same map, *c.* 1595, in the Hardiman collection.¹

WINDOWS AND DOORS.—The fine three-light windows of Abbeyowney and Monasteranenagh have been destroyed, and most of the Cathedral windows rebuilt. Of the later twelfth and earlier thirteenth centuries we find various round-headed lights in the two latter buildings; the east window of Shanagolden church is pointed, but of the transitional period in its mouldings and capitals. Old Abbey has some fine features of the period about 1250; Kilmallock, of the end of the century, such as the magnificent five-light window of the Dominican church.

In the fourteenth and fifteenth centuries the plain window, with interlacing shafts, and with no cusps or heading pieces, is common and is often of very pleasing effect. It occurs at Kilmallock, Adare (Black and Franciscan "Abbeys"), Askeaton, and less pleasing examples at Rathkeale, Mahoonagh, and the Cathedral. A beautiful reticulated traceried window is found in the south transept of the Dominican House, Kilmallock; and a rather conventional perpendicular window in the south wall of the Cathedral.

Windows with cusped "decorated tracery" are, I think, only found at Askeaton, in the Franciscan Church, and (strange to say) the Banqueting-Hall in the Castle.

In the smaller churches the fifteenth-century features are as usual narrow, single, or double lights, with pointed, round, ogee, or trefoil heads, or a single light with two round heads meeting in a cusp in the middle. The hood mouldings are angular, with, as a rule, recessed spandrels. The doors are usually very plain, pointed or round, rarely moulded. In some cases crockets spring from the hoods or (as at Dunmoylan) roses are carved in a hollow moulding.

CLOISTER ARCADES.—These not very common features are represented among the Limerick convents at Askeaton, the Black and Franciscan Abbeys of Adare.² Askeaton has the fine, "uniformly varying" sets of capitals and bases, some varied with nail-head enrich-

¹ Plate XII.

² Plate XI.

ment. There are ugly bent shafts (like "down pipes" from a roof) at the angles; and one corner pier has a rude little figure of St. Francis in a recess, enriched with crockets, oak-leaves, and acorns. The west side of the Franciscan cloister at Adare has somewhat similar pillars, in couplets or groups of four, with projecting buttresses. The three other arcades have plain, chamfered, pointed arches, without capitals and in triplets. The Black Abbey has a very pretty little cloister, with groups of three cinquefoil-headed arches. They have shields, with plain and saltire crosses inside. Numerous capitals and shafts remain from the demolished cloister of the Dominicans in Limerick; it seems to have resembled that of Quin or Ennis, *c.* 1402. No traces of arcades are found at the Cistercian Abbeys, Old Abbey, Ballingarry, or Kilmallock.

SEDILIA, ALTARS, &c.—The top and front slabs of the high altars of the Cathedral and of the Franciscans at Adare remain; neither is ornamented; the one at Adare has five small incised crosses. The sedilia are chiefly of the fifteenth century, the finest and earliest being those carved with the name of John Budston, *c.* 1405, in the Cathedral, and the fine groups in the two monasteries of Adare;¹ the Franciscan sedilia were made by M. O'Hickie about 1490. There are some very late ones at Askeaton; the last convent has a reader's recess in the refectory, with three arches and lofty shafts. An interesting piscina and blank recesses, probably for mural paintings, are found at Old Abbey. The sedilia at Kilmallock have been sadly defaced. I do not know of any ancient font; an ancient stoup is used for one at Shanagolden, and a late basin, with conventional sprays of foliage, is in the Black Abbey Church, Adare.

TOMBS AND MONUMENTS.—Limerick seems to be singularly devoid of early Christian tombstones, with carvings or Irish inscriptions; nor do runic stones or high crosses occur. An ogham stone was found near Rathkeale, but was probably pre-Christian. The venerable monasteries of Mungret, Killeedy, and Kilmallock do not afford us early monuments. The tombstone reputed (with probability) to be that of King Donaldmore, 1192, remains in the cathedral, removed from its place under the belfry to the Jebb transept. It is decorated with a cross and circle and four lions. A tablet with a shield displaying a chevron between three lions passant and with the name "Donoh" above it, is set in the chancel-wall, and probably commemorates Bishop

¹ Plate XI.

Donchad O'Brien, 1206, who completed the choir. Some leaves under it seem later than his time, but may have been recut. The monumental effigies of Bishop Cornelius O'Dea in the Cathedral, and King Donchad Cairbrech O'Brien, 1242, in the Dominican Abbey, have disappeared; the other monuments are not earlier than the year 1400. An early tomb with the effigy of a knight remains at Hospital; it is supposed to be that of Geffry fitz Maurice, the founder. There is an early incised cross on a tapering stone in Old Abbey. It is very disappointing to find no other tombs with epitaphs or carvings of the thirteenth and fourteenth centuries.

After 1400 we find the monuments of Budston, Bultingford, and Galwey in the cathedral, and fragments of the beautiful canopied tomb of James, Earl of Desmond, 1459 (destroyed by Malbie in 1579), in Askeaton Friary. Adare yields us no tombs of this century; nor are any such found at Kilmallock, Rathkeale, Monasteranenagh, or Abbey Owney. We omit the Elizabethan and later tombs.

OTHER STRUCTURES.—Columbaria are found at the Trinitarian and Black Abbeys of Adare; the former closely resembles the pigeon-house of Old Abbey, but it is far more perfect. The sanitation of some of the abbeys is very good, the drainage of the Franciscan house at Adare being discharged down the mill-race; Old Abbey and Askeaton into the neighbouring stream and river. A certain degree of comfort is marked in the fireplaces and ovens at Askeaton, Kilmallock, and Adare; none remains at Old Abbey. The little water-mill of the Franciscans, with the narrow channel for the wheel and the broken millstones, is to be seen at Adare.

(B).—CHURCH FURNITURE AND PLATE.

CARVINGS AND PICTURES.—Paintings of saints, possibly of the seventeenth-century revival, were once visible in the Franciscan Church, Adare; slight traces of these were to be found even in 1878. The oak misereres in the Cathedral must be noted in another section. The Cathedral possesses the very peculiar bracket with carvings of St. Michael and the dragon, the Crucifixion, and St. Michael and Satan, also one of the pelican reviving its dead young, and of the seven-headed dragon (Christ and Antichrist) on the Stacpoles' monument. Figures of ecclesiastics are found in the Franciscan houses of Adare and Askeaton; St. Catherine and another saint at the latter place. A figure of a squirrel was carved at Monasteranenagh. Sheelanagigs, which occur

on churches in Clare, Cork, and other counties, are only found in Limerick on the castles of Dunnaman and Tullyvin.

The remarkable dark oak misereres or chancel stalls in the body of the Cathedral seem to belong to the later fifteenth century, perhaps to the restorations executed in 1490. Each chair measures 26 inches from arm to arm; the seats turn on pivots, and have carvings underneath. We find carvings of various birds, and animals, and monsters—wild boar, "ibex," "antelope," swan, eagle, rabbit, ape, a lion overpowering a winged dragon (Christ and Antichrist), cockatrice, griffin, and sphinx; one human head with a heavy cap, resembling Henry IV., and angels. Each figure is between sprays of late conventional foliage.¹

The books preserved in St. Mary's, as well as the church plate, were carried off by, and recovered from, the Macnamaras about 1370. In the fifteenth century the cathedral possessed a library, of which a list of forty-five MSS. is preserved in the Sloane MSS. in the British Museum, 4793, and has been partly (thirty-three only) published by Lenihan in "*Limerick*," p. 573, being of course theological and philosophical.

We may next notice the fine crozier and mitre of Bishop O'Dea; but, they having been fully described at various times, we need only add the quaint fact of the rebus ("nels" in a heart = Cor-nels), representing the prelate's Christian name—Cornelius.² The mitre of Bishop Thomas Arthur has also been already described.³

A curious relic, the Mias Phadruig, or golden dish of St. Patrick, was long preserved at Knockpatrick, near Foynes, but was pledged, or sold, by its hereditary curator, Mary Neville, "of the dish," early in the last century. Cognate with it was, perhaps, the "gold shell," found near the Well of Kilpeacon.

We fortunately possess a list of the goods of the Augustinian house of St. Mary and St. Edward, in Limerick. Of the former an Inquisition was taken in Limerick, 1538.⁴ After reciting how "Symon Minor was founder of Sayntt Mary howss in the worships of the Blessytt Virgin Saynt Mary and Saynt Edward, Kynge and Martyr," and that the prior Sir John Fox had left a chalice in pledge

¹ R.S.A.I., xxii., p. 73, and "*Limerick Field Club*," vol. i.

² "*Archæologia*," xvii., p. 30. R. S. A. I., xxvii., p. 41. "*Limerick Field Club*," vol. i., pt. 1.

³ R.S.A.I., 1866 (vii., Ser. iv., p. 369).

⁴ Inquisition, P. R. O. I., xix Hen. VIII.

with "Stywyn Creagh," the jury found these goods on the high altar: a table of alabaster, 4 candlesticks, "a senc" (censer), "toy (two) payr cruetts," 21 books great and small, holy water 'stok,' "a payr of organys," 18 tapers, "try cowpyr crossys, 3 westmettes, a grett bell, two small bells, 3 doss (dozen) bowls," 2 old coffers, beds, a standing bed, 3 old surplices, a "lydge table," 3 small tables, 6 tasselles, two chairs, 2 candlesticks, 2 broches (spits), a hanging candlestick, a platter, 2 patterns, a brass pot, "3 lowys of glass," a "lydge tressel," and 4 forms. These were given to Edmond Sexten.

Towards the close of the same century Father Mooney saw the plate of the Franciscans' Church of Adare at Cork. It consisted of a beautiful silver-gilt ciborium, six or seven silver chalices, some gilt, a silver processional cross, and several sumptuous, but decayed, vestments.¹

The chalice of the Dominicans of Kilmallock, a silver cup of graceful design, was given by Callaghan O'Callaghan and his wife, Juliana Butler, when brother Henry was prior, 1639. The inscription also asks a prayer for Maurice (son of Edward Fitzgibbon, the White Knight), who, with his father, died 1608, and bears the name of Thomas Burget. Its only ornament is the figure of the Crucifixion.²

Mr. J. Davis White has, in a valuable Paper "On the Church Plate of the Diocese of Cashel and Emly,"³ given particulars about that of several of the churches in County Limerick. Briefly, we note Abingdon, 1779, given by Rev. John Seymour. Aney has the chalice of the new church, Loughgur, presented by Rachel, Countess of Bath, 1669, and its own chalice, given by William, Archbishop of Cashel, 1701. The Cahercorney chalice was given by Edward Croker, 1725. The Green chalice and paten were first given by Rev. Richard de Burgh to Cullen, 1745. At Galbally the paten is very ancient; the chalice belonged to Duntrileague Church, and was given 1674 to 1706 by E. Irby, a thank-offering for her safe return to Ireland.

Of other plate I have few notes. A chalice, said to have belonged to the Franciscans of Askeaton, is now in possession of the parish priests. The chalice of the Protestant church was given by Simon Eaton in 1663.⁴ The Roman Catholic church of Adare has a rich

¹ "Franciscan Tertiary," vol. v., p. 354.

² R.S.A.I., xix., pp. 216, 217, by Rev. J. Crowe.

³ R.S.A.I., xviii. (1888), p. 176.

⁴ R.S.A.I., xxxiv., p. 116.

chalice, presented by Thady Quin (ancestor of the Earls of Dunraven) in 1726.¹

I can only give a few references to bells. The small early bell of Mungret is in the collection of the Royal Irish Academy.² Lenihan tells us how, of five "silver" bells at Ardpatrick, three were found in the base of the round tower there. John Budston gave a peal of four brass bells to St. Mary's Cathedral about 1400; they have all disappeared since 1640. They probably are the bells which are celebrated in the beautiful legend of the Italian bell-founder, who died in his boat on the Shannon, on recognising the sound of his long-lost master-pieces. They may also be legendary "silver bells," which were hidden in the Abbey River, and still may be heard pealing under its waters on Christmas nights. The present bells include those given to the Cathedral by William Yorke, then mayor of the city, in 1673. The oldest (F bell) has the inscription "Guilielmus Yorke, Armiger, Preator (Mayor), 1673. Johannes Vesey, s.r.d., Episcopus, Johannes Smith, A.M., Decanus, 1673. Ex mutis liquide (liquidi?) fate (facti) sumus nide (inde) vocales iam consonantes quid vetat loquamur W. P. R. P." Of church seals I only know of two early ones extant (3) "Sigillū. Dni. Johis. epi. Lymrencis" with a bishop sitting between two trefoil-headed windows and an abbot below. This is of Bishop Mothel (1426-58). The next is a little later in date, "S. Guilli. precentoris ecclie. Limirice," with the device of a monk praying to the Virgin and Child in an elaborate shrine or church and between two keys.⁴ The seal of Bishop Cornelius O'Dea was extant in 1640, "Sigillum Cornelii dei gratia episcopi Lymericensis," with figures of the Father bearing the crucified Son: in the middle, the Virgin and two other figures; and below, the Bishop between the arms of Desmond and Ormond.⁵

¹ R.S.A.I., xxviii, p. 136, figure, p. 133.

² For the shrine of St. Senan's bell, of Iniscatha, see R.S.A.I., xxx., p. 237.

³ Probably William and Roger Purdue, famous bell-founders, of Salisbury. William died in Limerick, 3 Dec., 1673, and was buried near the Dean's seat, where his epitaph was read by Dyneley in 1680:—

"There's here a bell-founder, honest and true,
Until the resurrection lies Purdue."

⁴ "Episcopal and Capitular Seals" (R. Caulfield, 1853). Plate VII., Limerick. Plate II., Emly.

⁵ Arthur MSS., Lenihan, "Limerick," p. 572.

(C).—THE CONTENTS OF THE BLACK BOOK OF LIMERICK.

The large number of documents dated only by the bishops named compel us to arrange them under the various episcopates. We also omit deeds without any chronological data. The numeration is that of the original; but where there is no side number, we give the page instead.

BRICIUS (*c.* 1180, *c.* 1195).—Charter of D., King of Limerick (Lunicens), granting Imungram and Imalin (Mungret, &c.) to St. Mary's Cathedral, xxix.¹

DONAT O'BRIEN (*c.* 1195–1207).—Grant of King John (when Earl of Morton) of fisheries and Godric's land, p. 95. W. de Burgo's and Meyler f. Henry's Inquisitions, xxi, xxiii. Ordinance as to offices in cathedral, p. 109. W. de Burgo grants Estlona, p. 103; King John prohibits building of castles on the bishop's lands, 1207, xxxv.²

GEOFFREY OF DUNGARVAN (1207–1216).—Henry III. grants to the Castle Chapel, Limerick, 1216, p. 116;³ a badly copied charter to G. or E., Bishop of Limerick; confusion apparent in the copy, p. 101.

EDMUND (1216–1223).—Grant of Douenathmor, p. 78. King John's charter of the cantred of Limerick, Mungareth, and Omayl, 1216, pp. 46, 95. A letter as to the same, and Mungareth; confirmation of Donat's ordinance, p. 111; Edmund establishes prebends, and confirms the ordinances of Bishop Donat, p. 114; and another 11 Sep., 1217, assigning same lands, and the "natives" on Omayl in pure alms (B.B.L., p. 119).

HUBERT DE BURGH⁴ (1223–1251).—*Grants*—Churches of Ofergus, in Oconyl, xxxii; R. de London, of Glyncorbry Churches, *c.* 1259, xxxix; H. Minetar, of Drundel Manor, xl; Sengel, xlviii; Iniskeffy Church to Keynsham Abbey, li; Kiletham (for souls of Bishop's ancestors), 1223; Clonka Church, lx; Kilscohy, Kilgoban, and Kilscebeg; witness, Master Tyrrell, vicar of Adare, lxxvii; Mongret,

¹ For Donaldmore and his Charters to St. Mary's, Holy Cross, and Clare Abbey, see B.S.A.I., vol. xxiii., pp. 74–78, and xxviii., p. 36, and xxx., pp. 120, 121.

² Walter Crop grants benefices as granted by King John to Athiasell, p. 89.

³ His Inquisition as to fishery and Drumyn, p. 101.

⁴ The Cal. Papal Letters, i., p. 117, gives a hostile report of this Bishop in 1227 as illegitimate, simoniacal, ignorant, and disobedient to his metropolitan. The latter charges are not supported elsewhere. He appears to have been an enlightened and able prelate.

Maycro, Lyssmuk, Browry, and Balysyward Churches to the dean, p. 73; Henry, son of Roger Waspayl, of Rathgel Church to Keynham, c. 1228, p. 74; Rathgel, Rathoffargus,¹ Mayntaueny, Mayryne, Maymolcally, Browry, Culballysiward, Karracnesy, Orosse, and Iniskefty surrendered by Keynsham, p. 75; John f. Thomas, of Senode Church, p. 106; to John Cornubiens, of Kilmallock, lands at Gortnetross, Cloncourtha, and Kileurnan, p. 132; Maynero, Creuathmahill, and Douenathmor, surrendered by Athissell Abbey, May, 1239, p. 80; Roger Waspayl to Matthew, Parson of Rathnesar,² lands between Rathkeale and the Deel, p. 105; Villacomdyne, in Mungaret, pp. 77-79. Abbot of May (Monasternenagh) to David Long, Polmanath, and lands at New Gate of Limerick, 1230, xxxiii. *Letters*—Letter of Geoffry de Mareys about Kilmehallock, p. 16, xxiii; homage of same to See of Limerick for Kilmehallock, Drethenetarsna, Kyltuly, Killonethon, Kylcohan, Kikelbeg, and Kilcremia, 1246, p. 16. Damage inflicted by same on See property, 1235,³ p. 17. Same, citing King John's letter to Bishop Edmund, p. 119. Violent acts of same on See property at Kilmechalloc, Mungareth, Douenathmor, and the Church of Sengol, in'all £232, 30 oxen, and 100 marks; with petition for his (de Mareys') excommunication, pp. 122-128. Excommunication of Prior and Convent of Inistioc, in Ossory, they having buried in their convent G. de Rupe, under excommunication for violently occupying lands of See of Limerick, 1245, pp. 120, 121. *Agreements*—With G. de Prendergast as to Kilconogan, Kilbigly, and Effyng, 1240, p. 104; with Adam Elys, provost of Killocia, p. 73; with Gilbert, Bishop of Ardfert, as to detention of fish tithes at Limerick, and the vill. of Killiforach, and church and parson of Kilmworach, xlv: that clerics in the diocese may dispose by will of one year's stipend after their deaths to pay their debts, liii; as to fish tithes at Limerick, liv; with G. Butler as to Kilele, 1253, lxxii; with Thomas, Prior of Connall, pledging a mill at Kilmehallock and Killelid, 1248, xxxi; D., Bishop of Killaloe, and G., Bishop of Ossory, 1245, p. 120.

¹ Rathagonan and Rathrewy, in Offargus (rental of Oconyll, 1452). The churches may have been Kilfergus, Kileany, and Ardnakisha, if Kilfergus parish is meant, or Clonkagh and Kilecanell if the later manor (1452) represents the older Offargus.

² An interesting deed reserving the "natives" to Roger. Witnesses—Robert Doundonenyll and Wm. de Cardiff (1220 to 1230).

³ A similar account in Nat. MSS. of Ireland, vol. ii., No. lxxii., to Henry III., dates 1235.

ROBERT OF EMLY (1251-1275).—*Grants*—Seisin to Master Robert de Imelac, the Bishop, of Calwen or Cullyn, I., of benefices of Carnarthy and Rathsyward, to Thomas, the dean, 1253, p. 73; J. de Sniterby, of Nentenan, 1267, x; C. le Yereys, of Mungret, 1257, xi; of Clonbalitarsne, pp. 8, 252; of Drundel manor, 1252, xix; J. de Penrys, as to Lankyl, xlvi; and in 1274, p. 119, J. Flandrens, of Dyssertenegus and Cathyrasse, xlvii; to H. de Lambarde, Cathyrasse, with a fishery on the May, suit at the manor of Cloncheur, 1256, lxi; Robert de S. Edmund confirms Thomas Cooke, the Chancellor, in Mungret, c. 1270, xxxv; Edward, the Prince, to the Treasurer and Canons, 1268; they may make walls, and enlarge their courts, saving rights of city, lxvii; Thomas f. Senan, of a mill in Kilmehallock, lxx; Dean Thomas Wodeford, houses in Limerick, p. 118; Ralph de Northwych, Mungareth, to Dean, c. 1274, xlii, p. 78; Ric. Flandrensis, of Magrany, p. 93; to Abbot of Insula Molanfyd, Dermeko with re-grant, pp. 106-113. *Agreements*—As to Mungaret, p. 6, m. 1257, p. 7, with Hugh and Ymay Possewyke, land at Clonelty, xvi; Rathrenath, Clonnath, 1251, xiii-xvii; Elie f. Ade, quit claim to Clonlisdon² and Ertherath, 1270, xli; John Purcell, as to Clansder (basse), 1266, p. 3; Malachi, rector of Ardpatric, p. 44; Kilmorly and Kilfergus Churches, 1253, p. 12, with Hugh Purcell, as to lands and woods at Clonlismon, Clansderbasse, and Moycro, xv, xvii. *Other documents*—Lawsuit with Malchus, Prior of Athissell Abbey, tried before the Bishop of Cloyne, as to the churches of Moycro, Douenathmor, the benefices of Crewagh Omaylly, the churches of Kilbradran, Carnarthy, Rathsyward, and Kilmuchorog, 1253-4, pp. 80, 81, 90, 101; Ordinances of Dean Wodeford, 1265, p. 108.

GERALD DE MARISCAL (1275-1307).—*Grants*—Of Corcomoyd parsonage and vicarage to the chapter, at Dysert, 1299, p. 100; Crecourtha Church to Simon f. Walter, rector, 1278, and his surrender, 1282, p. 44; Thomas de Clare, Corkeymoyd Church, 1275-84, p. 93; same, Kilmehallock, p. 18, xxiv; Juliana, his wife, Corkomoyd after 1287, p. 97; A. Flandrens, Clonylty, p. 96; J. de Cogan, Crecouertha in Ocholechur, 1287, pp. 100-113; W. Wess, claims on Church of Crecortha, in Orthotochor, p. 130; Robert, Abbot of Magio (Monasternenagh), grants lands round the White Cross, Limerick, to the church and prebend of Dysert Enegus, and quits claim to Balyfodyr, c. 1280, xxxviii;

¹ These, as implied in a deed of 1239, were Maynchro, Creuathomayll, and Douenathmor, B.B.L., p. 90.

² Elsewhere Clonlismon and Clonlisamor.

John Brathnach grants Kilmure and Kilfergus, 1296, lvi. *Agreements*—Maurice le Marischal as to Ardagh, 1279–1285, ii and vi; Kidach, vii; Corromoran and Falsky, viii; M., Bishop of Killaloe, as to Douenathmor, xxxvii; Adam le Palmifer, as to Kilscahyll, lxi; J. f. David, as to Tulachbrec, a. 1284, p. 91; the chapter and Geste de Lumbarde, 1293, p. 90; John Dondon as to messuage in Limerick, xiv; G. f. Milo, as to Kilmallock burgesses, xxvi; Claricia f. Pagan, same, xx, xvii; W. f. Martin, same, xxv, xxviii; Malachi, rector of Ardpatric, swears obedience, 1301, p. 43. *Other Deeds*—Recital of ancient acts of chapter, 1295, p. 55, and new statutes, p. 57; Effyn Church made a prebend, 1287, pp. 111–113. The undated deeds of Kilmallock (pp. 63–72) belong to this episcopate (1270–1291).

ROBERT OF DUNDONNELL (1307–1311).—*Grants*—Clamfderch (? Clansderbasse) and Mungarreth, ix.

EUSTACE DE L'EAU.—*Grants*—H. de Eyteley grants lands of his grandfather, David de Eyteley, in Tullaghbrek, 1311–1313, p. 130; Charter of Edward III., 1332, pp. 130, 131.

MAURICE DE RUPEFORT.—Rental, 1336, p. 138; STEPHEN LAWLES, Letter of Edward III. as to offences, p. 134; STEPHEN DE VALLE (1360–69), grant to Robert de Lew, of Ballyhoregna, 1362, p. 133; CORNELIUS O'DEA, Taxatio Procuracionum, 1418–22, p. 136; Rentals, &c., p. 145; JOHN MOTHEL, Inquisition before Thomas O'Cathyll, the seneschal, and a jury at Tullabrek, 1440, p. 141; WILLIAM CREACH recovers Donaghmore, 1461, p. 142; an almost defaced grant of Edward IV., p. 143; JOHN COYN, suit of Knight of the Glyn, as to the Knight's Cappagh, tried in the Chapter House of Askeaton Convent, 1541, p. 144; BERNARD ADAMS, Memoranda as to repair of cathedral, bishop's monument, and palace; reconstitution of choir and services, &c., &c., 1619, p. 147; commission to enquire into rents due to him, signed by Adam Loftus and Henry Docwra, p. 148; recovery of Kilrush, 152.

¹ Dissert de Ballyhouregain is given in Rental of Bishop Maurice de Rupefort, 1336, copy MSS., T.C.D., 1063, p. 40; Bishop Stephen, in 1362, granted lands, pastures, weirs, and mills, in Ballyhoregna, to Robert, son of Stephen de Lew, service at Cloncheur. It adjoined Dysert Church, near Croom, and formed its glebe. The Terriers of July, 1698, and August, 1805, P.R.O.I., mention it as such "Carrigeen, and part of Ballyhourigan." The latter document adds "on which there is neither church, glebe-house, or glebe lands."

(D).—DEDICATIONS OF CHURCHES.

We have considered the important subject of the dedications to native saints. These are most important to our Paper, as resting upon a historical basis, not on a mere pious selection. We may here collect the other dedications as of interest, as indicating the popular regard towards certain saints. As is so usual, the direct dedications to the names of the Deity are few; those to the Trinity are at Rathkeale, Dunnaman, and Dromin; to the "King of Sunday" (some think "King of the World") are dedicated the wells called Tobereendowney, at Ballingaddy, Caherhenesy, Cloncagh, Croagh, Dromkeen, Dunmoylan, Gortadroma, Kilquane (near Kilmallock), and Thomastown.

Of holy persons, the Virgin was patroness of the Cathedral, the Holy Cross Abbey, Monasternenagh, Owney, and Feale; of the three churches called Kilmurphy, with Askeaton and Effin churches besides; of the wells of Tubbermurphy, at Abbeyfeale, Atheneasy, Ballingaddy (two), Ballilanders, Cloncagh, Dromtrasna, Effin, Killeena, Killulta, Kilquane, Kilmallock, Rathcahill, and Athlea. The well at Corcomohide was dedicated to her Purification.

The apostles were, for the most part, neglected. St. Paul shared with St. Peter the Collegiate Church of Kilmallock, and with St. Patrick a well at Knocklong. St. Matthew was at one time patron of Fedamore; St. Peter had a church and convent in Limerick; so had St. Andrew and St. John. The latter "beloved Apostle" had a well at Caherhenesy. St. James was patron of the Trinitarian Abbey, Adare; he had a chapel in the cathedral along with St. Mary Magdalen; while St. Mark had a late church in Limerick,¹ and St. Bartholomew was patron of Cloncrew and Dromcolliher.

Of other saints, John the Baptist was patron of Fedamore (in later times), of Hospital, and of a church in Limerick. St. Margaret was patron of Uregare and Newtown; St. Catherine, of Old Abbey; and St. Mary Magdalene, besides her chapel in the Cathedral, gave her name to Kilmurphy, near Limerick, and the well of Kilbane. St. Martin was commemorated at Chapel Martin; he, in 1204, had a church in Limerick, now lost; and was patron of Ardkilmartin, and Kilmartin, near Mungret. St. George and St. Anne had chapels in the cathedral; St. Richard had a city church in 1204, now lost; so had St. Lawrence, who was also patron of Disert (now Inch)

¹ In 1791 Diocesan Collections, Limerick, P.R.O.I.

St. Lawrence, and a church near Athlacca; St. Nicholas had a church near the port of Limerick, and others at Adare and Glenogra. St. David was patron of Newcastle, and St. Bernard superseded St. Beinid, at least in later days, at Ballyallinan.

St. Michael was patron of a city church, the two Kilmihils (near Ballingarry and Kilmallock), Ballinahinch, Caherconlish, and the Franciscan Church of Adare. His image, trampling on his crowned, crab-like adversary, still remains in the cathedral. Only one Irish saint, Munchin, gave his name to a church in the city.

To complete the wells, we may give those named in popular belief after imagined or forgotten saints: Toberfantan (Doon), Tobercolmoge, Toberedmond (Clogheen), Kilbradran, Tobernadoilemurry (Fantstown), also Toberrigan (Anhid), Toberabansha, Tobernaguppaun, Tobernea, and Tobercran (Effin), Toberboragh, Tobercanroe, Tobermalonagh, or Toberatea, at Kilfinnane, all reputedly holy wells.

(E).—DIOCESAN RECORDS OF LIMERICK.

Besides the "Black Book of Limerick," now at Maynooth, and its seventeenth-century namesake, made for Bishop Adams, and still preserved by the Protestant Bishops, there are certain documents lodged in the Public Record Office since the disestablishment of the Church of Ireland. The Books of the Diocesan Court begin in 1678, and continue with several gaps to 1869.

There are Terriers and Surveys of (1) Ballycahane, 1698, including St. John of the Holycross, in Limerick; (2) Ballycahane, 1784—church ruinous; (12) Parish of St. Munchin, 1698—church out of repair; (13) Mahonagh, 1805, and Aglish Glebe; (14) Shanagolden, 1773; (15) Monovah Glebe, in same, 1801; (17) Large parchment as to treasurership, 1773, elaborate accounts of St. Patrick's; Tankardstown, or Ballitankard, or Bollintownkard; Bruree; Emly Grynyne; Fisheries, and Temple Mackie to north of river, next St. Patrick's; (18) Bruree, 1804; (21) Tullybracky, 1785; (22 and 23) Same, 1698 (two); (24) Same, 1756—with Terrier of 1698; (26) Uregare, 1785—with map; (32) Effin, 1805—"churchyard and ruins of an old church"; (38) Kilcornan, 1785—"church is now finishing," and map; (37-39) Vicarage of Kilfintenan, Clare, 1805; (40) Forfeited houses, and Kilmallock, and parish of SS. Peter and Paul, 1664—very full survey; families being: Creagh, Meagh, Haly, Poore, Fox, Wall, Hurley, Gould, Mead, White, Purdon, Gerald,

Lachy, Stackbole, Fleming, Mixon ; (41) Particles, 1667 — names also: Lisrady, *alias* Liscready Church, in Loghill ; (42) Kilmallock ; (43) Kilreedy, 1755 ; Ballycahan, 1769—Dromin, 1745 ; (44) Disert, 1698—and part of Balliouregan adjoins “ Crume and Donaman ” ; (45) Same places, 1805—a prebend ; (46) Chancellorship—and “ Don-daniel,” Rathkeale, Killskannill, Clonagh, and Clonshere ; mentions “ decent church ” at second, ruined churches at the others ; “ no timber trees on any of the glebes,” and similar survey of 1781.

It only remains for me to acknowledge my indebtedness to some of those who especially helped me in obtaining notes on the Limerick churches—my late sister and brother, Bessie Anna Westropp and Ralph Hugh Westropp, B.A., the late George Studdert O’Sullivan, Mr. J. Grene Barry, Mr. John Wardell, M.A., Dr. George Fogerty, Dr. Henry Molony, and Dr. Joyce ; and I enjoyed (as so often) the help of Mr. James Mills, Mr. Henry Berry, and Mr. M. M’Enery, P.R.O.I. ; the last especially, by many valuable suggestions and pointing out of helpful documents, assisted me to numerous identifications. I have also to thank the Royal Society of Antiquaries of Ireland for the loan of several blocks of plans.¹

I must reiterate my indebtedness to the various authors of the Ordnance Survey Letters. It is much to be wished that a carefully edited series of selections from these documents could be published. No antiquary would desire a full verbatim publication, in view of their hasty character, and of the small knowledge of architecture shown by some of the writers. It would not be profitable to Irish archæology to publish views and errors hardly possible with our present-day knowledge and material. Students using the manuscripts are usually sufficiently trained to detect such mistakes, but the harm to the general reader of publishing errors over venerated names is manifest. An old work, even where incorrect, lacks the fatal sense of “ the latest word ” on the subject, which would attach to a modern publication of these letters in the form in which they were written.

For many years to come Irish archæology must weed out mistakes, and strive after more critical and ever-widening views ; and as we have been compelled to correct even the most valued works of our predecessors, so we hope our own mistakes may be speedily found out and eliminated from the fields of Irish archæology. .

¹ Plans of Limerick Cathedral, Plate XV. Monasternenagh plan, Plate XVII. Askeaton, Plate XVI. Old Abbey, Plate XV.

(F).—NOTE ADDED IN PRESS.

The sixth volume of "Papal Letters," published since my Paper was written, contains some points of interest bearing on the Limerick Churches, p. 313. The Collegiate Church of St. Senan, at Inyskathaygh, is located as in the diocese of Killaloe, 1411. It will be remembered that it is stated to have been in Limerick in 1408 (section 161, *supra*), p. 224. An indulgence granted to those repairing the Chapel of St. Meranus the Confessor (section 112), annexed to the parish church of Disert, and "entirely ruined by the frequent wars." Feb., 1411, p. 397.—Mention of Walter Northy, deceased, and Thomas Botiller, as successive ministers of "The Trinitarian House of St. James of Athdara," which identifies that hitherto doubtful house (section 67).

INCUMBENTS OF VARIOUS CHURCHES.

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[The numbers refer to sections, not pages; the letters to the deaneries: A., Adare; a., Aherloe; Ar., Ardagh; B., Ballingarry; G., Grene (with Any, 1615); K., Kilmallock; L., Limerick; O., Owney (Caherconlish in 1615); R., Rathkeale.]

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DESCRIPTION OF PLATES.

PLATE X.

Pre-Norman Churches, County Limerick (last four details from O. S. L.).

PLATE XI.

Churches of English Period—Monasteranenagh : Chancel before its fall ; from sketch by J. Windele, 1852. 2–4. Capitals, Monasteranenagh. 5. East Window, Kilmallock Friary. 6. West Door, Old Abbey, Shanagolden. 7. Cloister, Black Abbey, Adare. 8. Capitals, Limerick Cathedral. 9. Fireplace, Kilmallock Friary. 10. Sedilia and Piscina, Black Abbey, Adare. 11. East Window, Iveruss. 12. Cloister, Franciscan Friary, Adare.

PLATE XII.

Old Views of Abbeys and Churches, County Limerick, from Hardiman Map, 1590 ; *Pacata Hibernia*, 1610 ; Down Survey, 1655 ; Dyneley, 1680.

PLATE XIII.

Churches—Limerick Cathedral from South. Franciscan Friary, Adare, from S.E. Black Abbey, Adare : West Window of Aisle. Kilbreedy (near Kilmallock) : East Window. Limerick Cathedral : Capitals. Clonkeen : West Door.

PLATE XIV.

Plans of Black Abbey and Franciscan Friary, Adare.

PLATE XV.

Limerick Cathedral : Plan.¹ *a*, Ancient Altar. *b*, Piscina. *c*, Credence Table. *d*, Stoups. *e*, Sedilia. *f*, Oak Seats. *g*, Stoups. *h*, *i*, Arms of Miaghs and Arthurs. *j*, Old Door. *k*, Corbels. *l*, Carving of St. Michael, &c. *m*, Stoup. *n*, Donaldmore O'Brien. *o*, Arthur Tombs. *p*, Geoffry Galwey. *q*, Fox, Prior of Holy Cross. *r*, Donat O'Brien. *s*, Earl of Thomond. *t*, Bishop O'Dea. *u*, Galwey, Bultingfort, and Budstone. *v*, *y*, Stacpole. *w*, William Yorke. The capital letters refer to modern Monuments and Windows, except O, the West Door.

Old Abbey, Shanagolden : Plan.

PLATE XVI.

Askeaton—Franciscan Friary : Plan.

PLATE XVII.

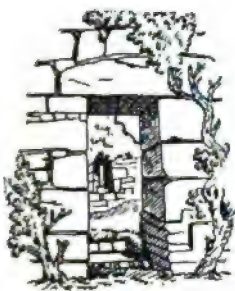
Monasteranenagh Abbey : Plan. A, Chapels. B, Squint. C, Window, now destroyed. D, Springs of Arches. E, Aisle Arch. F, Later Screen-wall. G, So-called confessional. H, West Door and Windows. I, Recess.

Kilmallock—Dominican Friary : Plan.

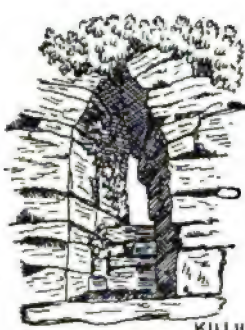
PLATE XVIII.

Mungret Abbey; the Desmonds' Chapel and Parish Church (these are 78 feet apart, but in same line as in the Plate), Adare; Shanagolden Church.

¹ The Plans of St. Mary's Cathedral, Old Abbey, Askeaton Convent, and Monasteranenagh were kindly lent by the Royal Society of Antiquaries of Ireland.



KILRUSH



KILLULTA



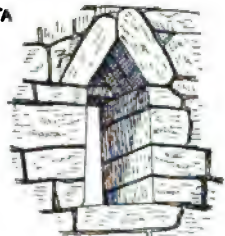
MUNGRET



WEST WINDOW

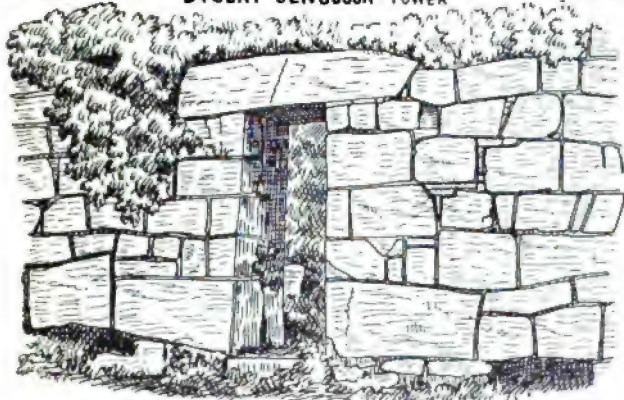


DOOR



SOUTH WINDOW

DYSERT OENGUSSA TOWER



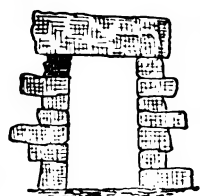
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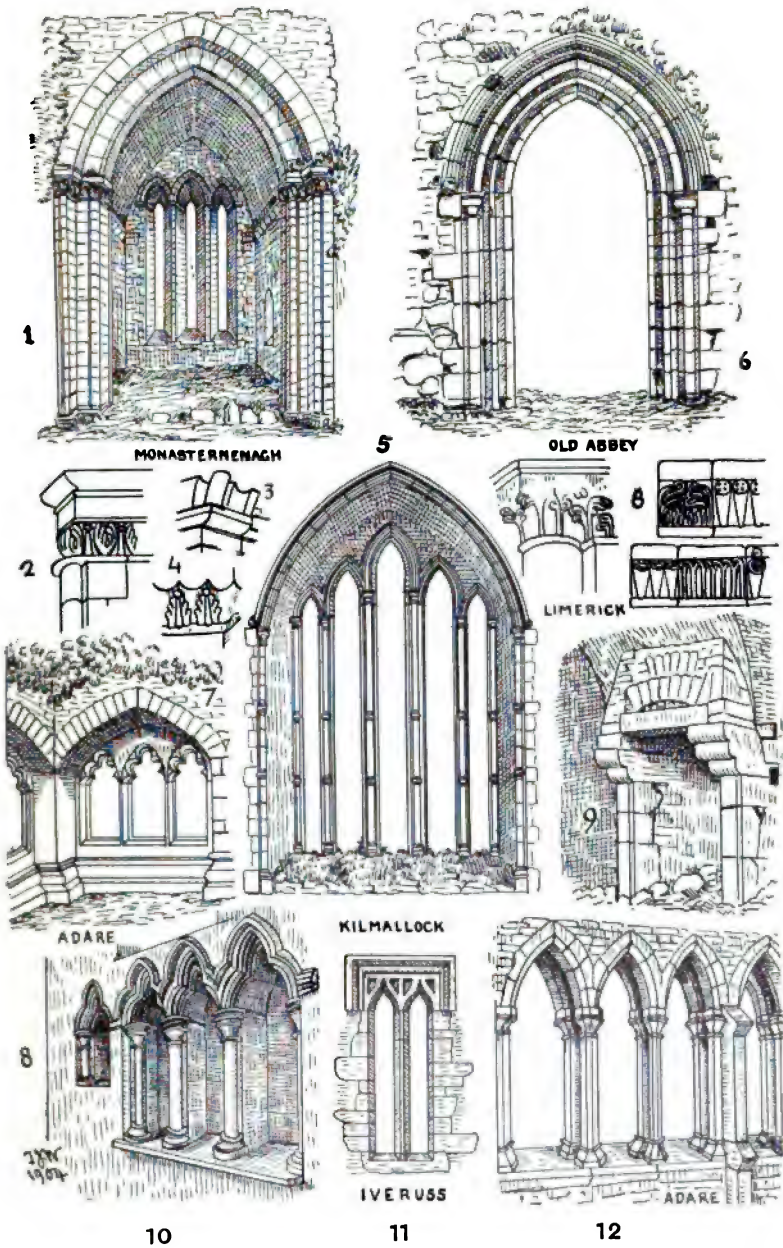
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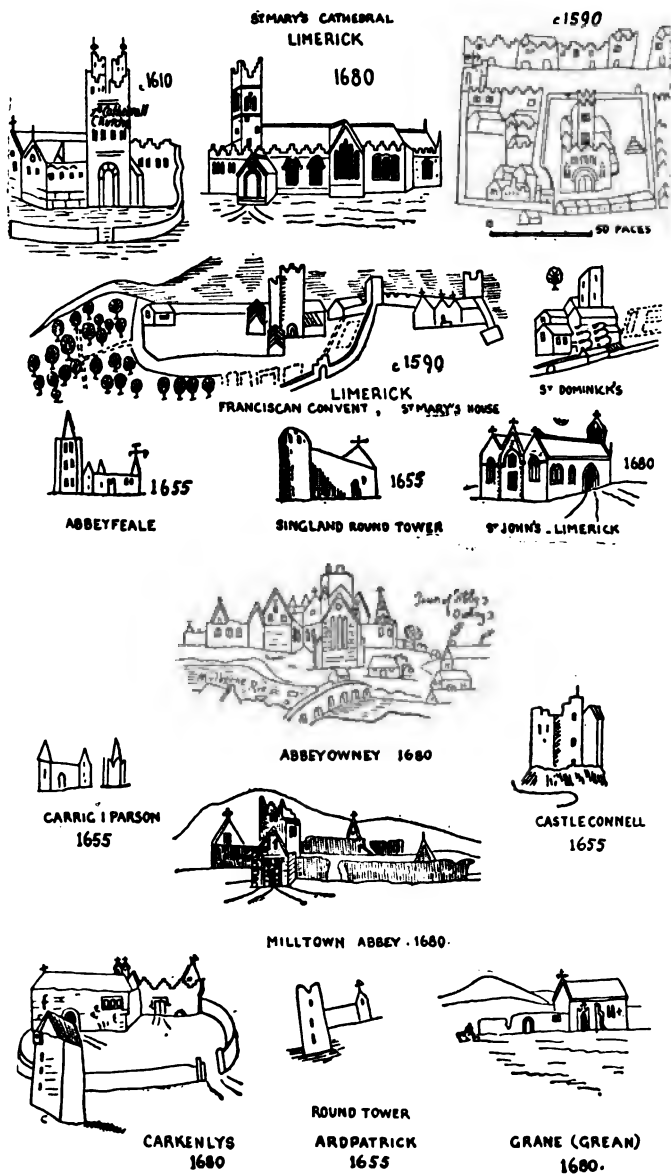


MAHOONAGH



Churches of English period, County Limerick.

(For reference, see p. 479, *supra*.)



Old Views of Abbeys and Churches, County Limerick.

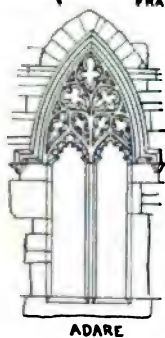
(1590, Hardiman Map; 1610, Pacata Hibernia; 1655, Down Survey; 1680, Dyneley.)



St. Mary's Cathedral.



FRANCISCAN FRIARY
ADARE



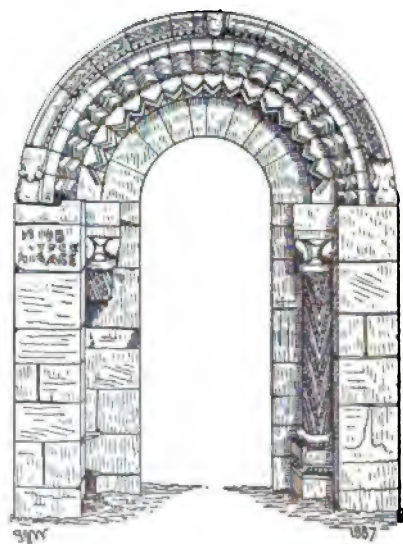
ADARE



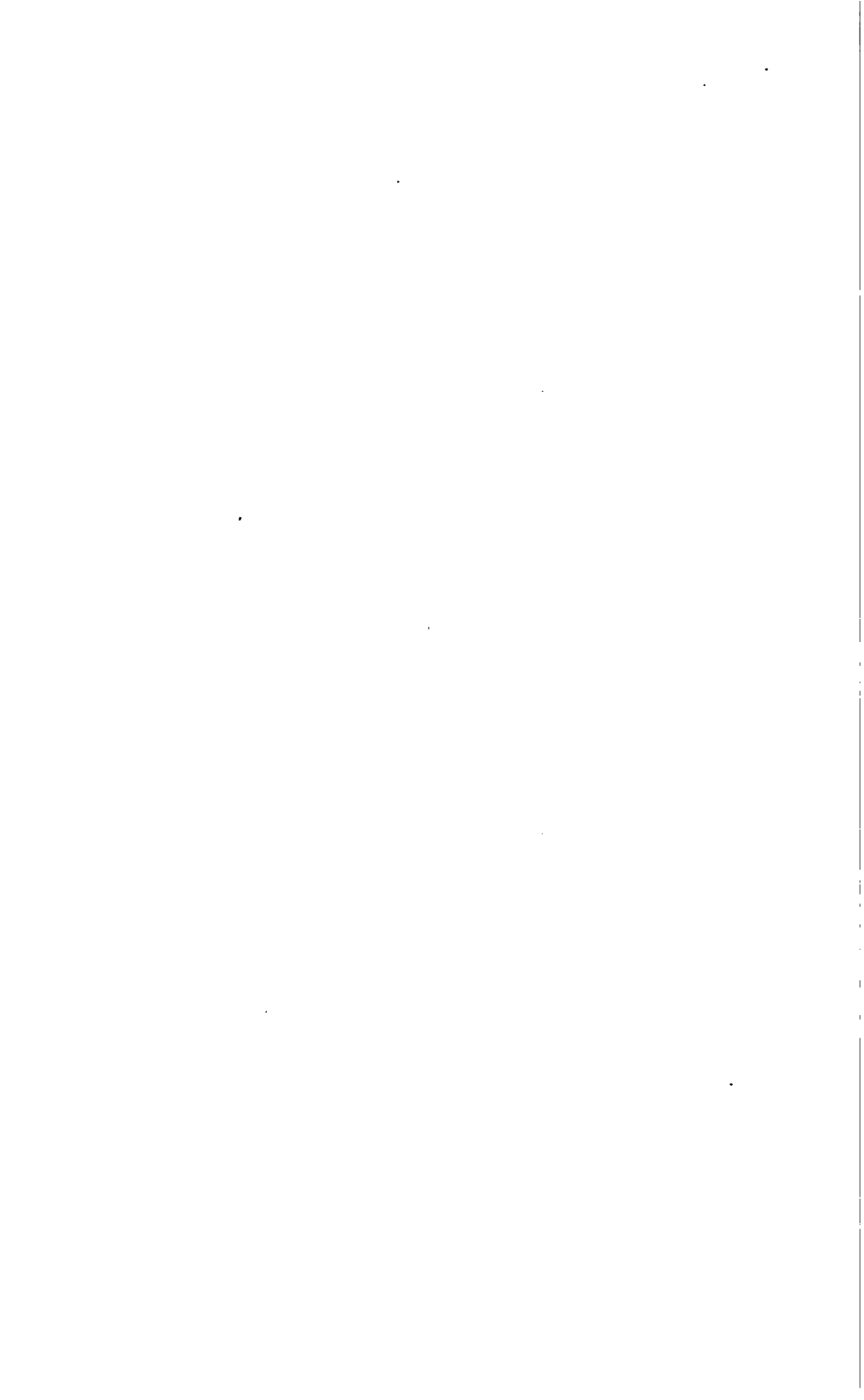
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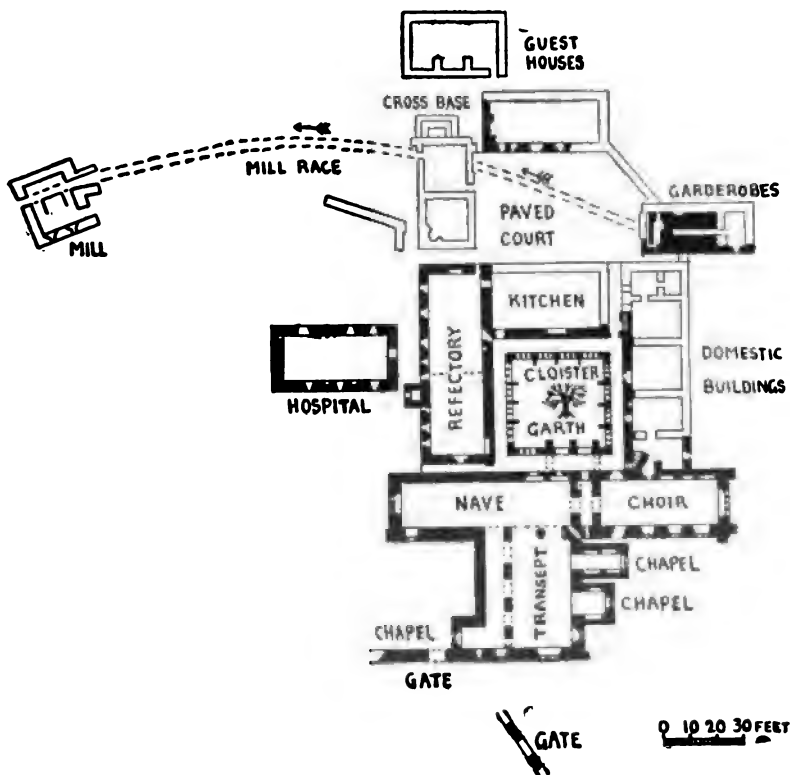
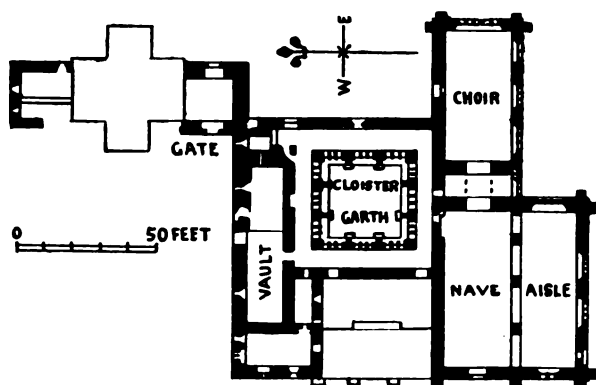


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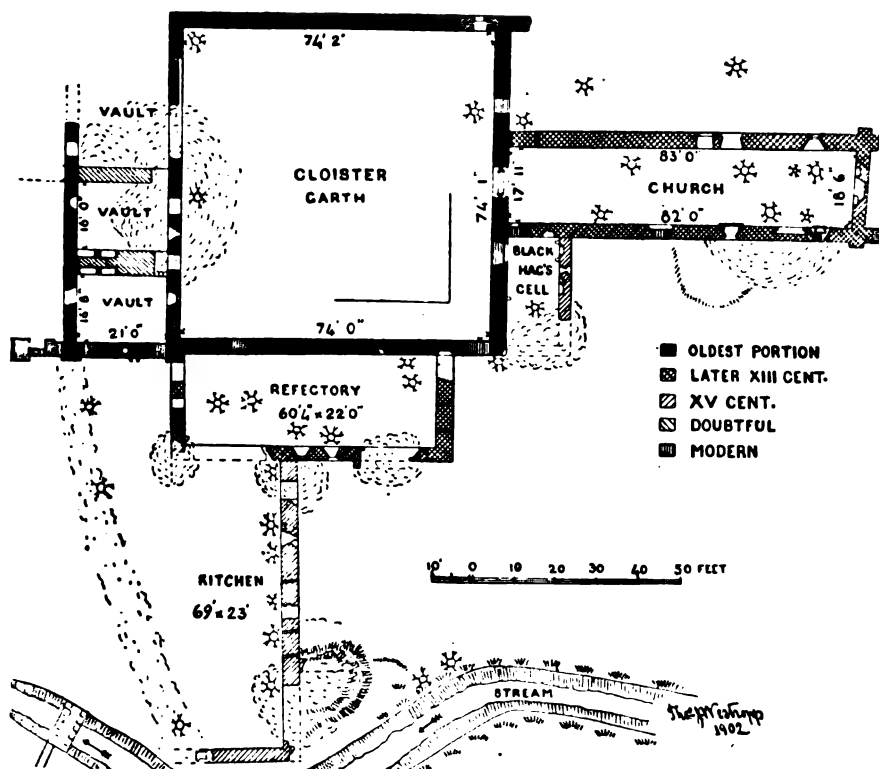
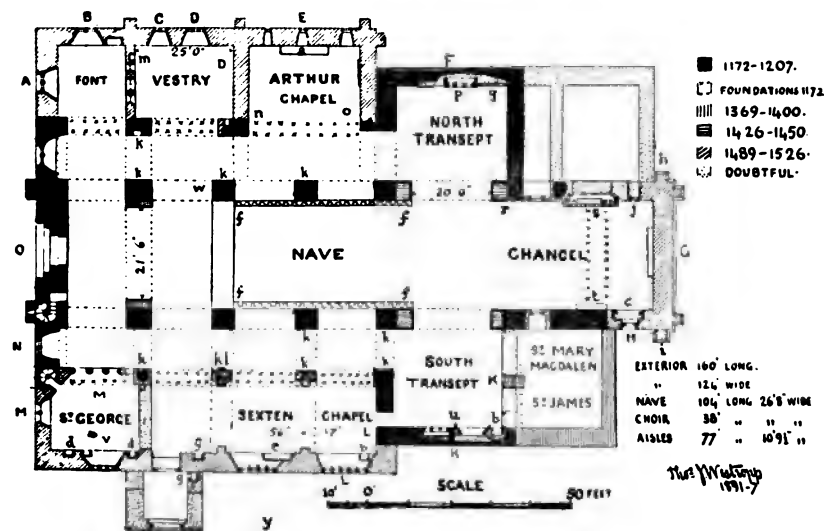
Churches: Limerick, Adare, Kilbreedy, and Clonkeene.
(For reference, see p. 479, *supra*.)





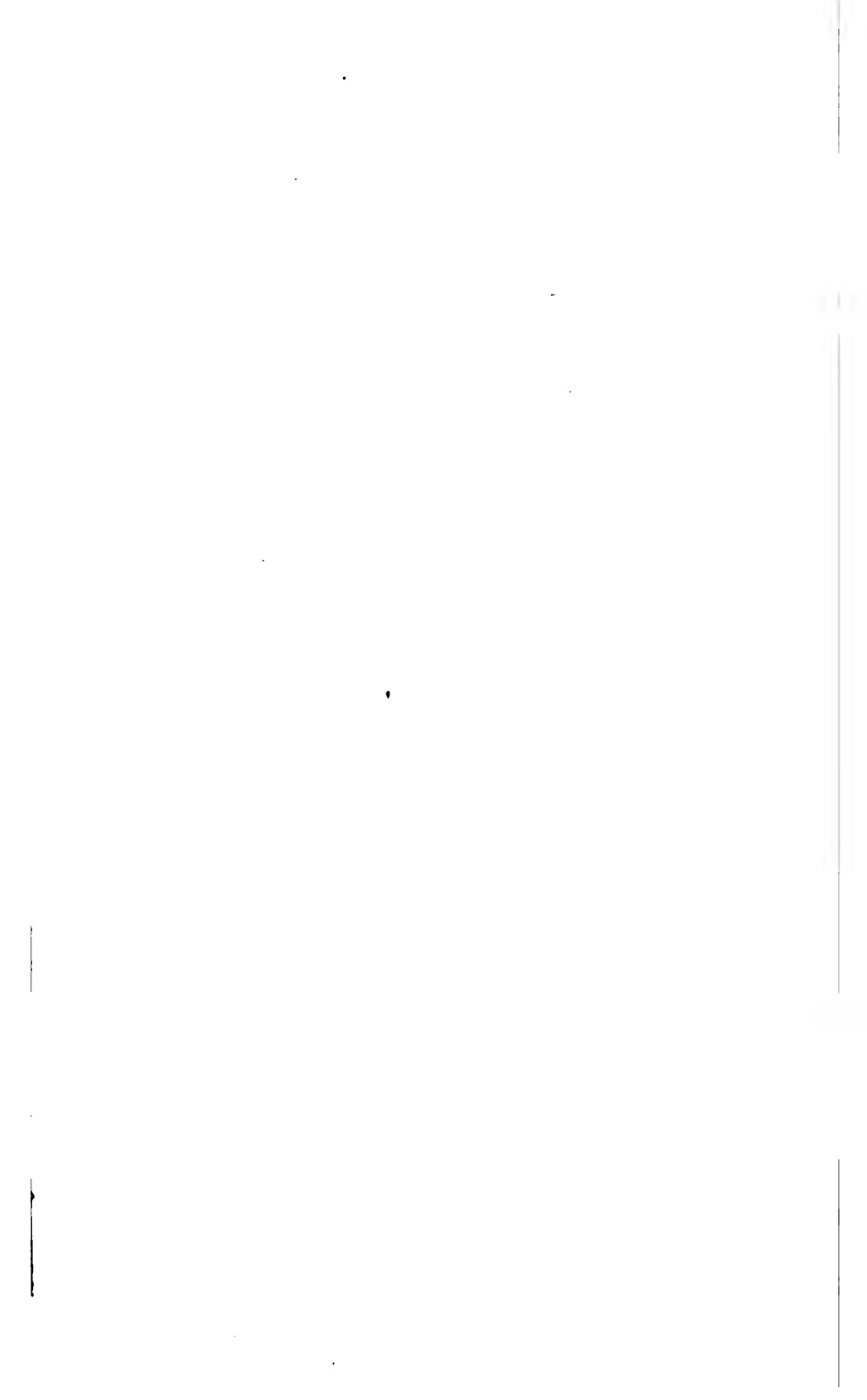
Plans of Black Abbey and Franciscan Friary, Adare.

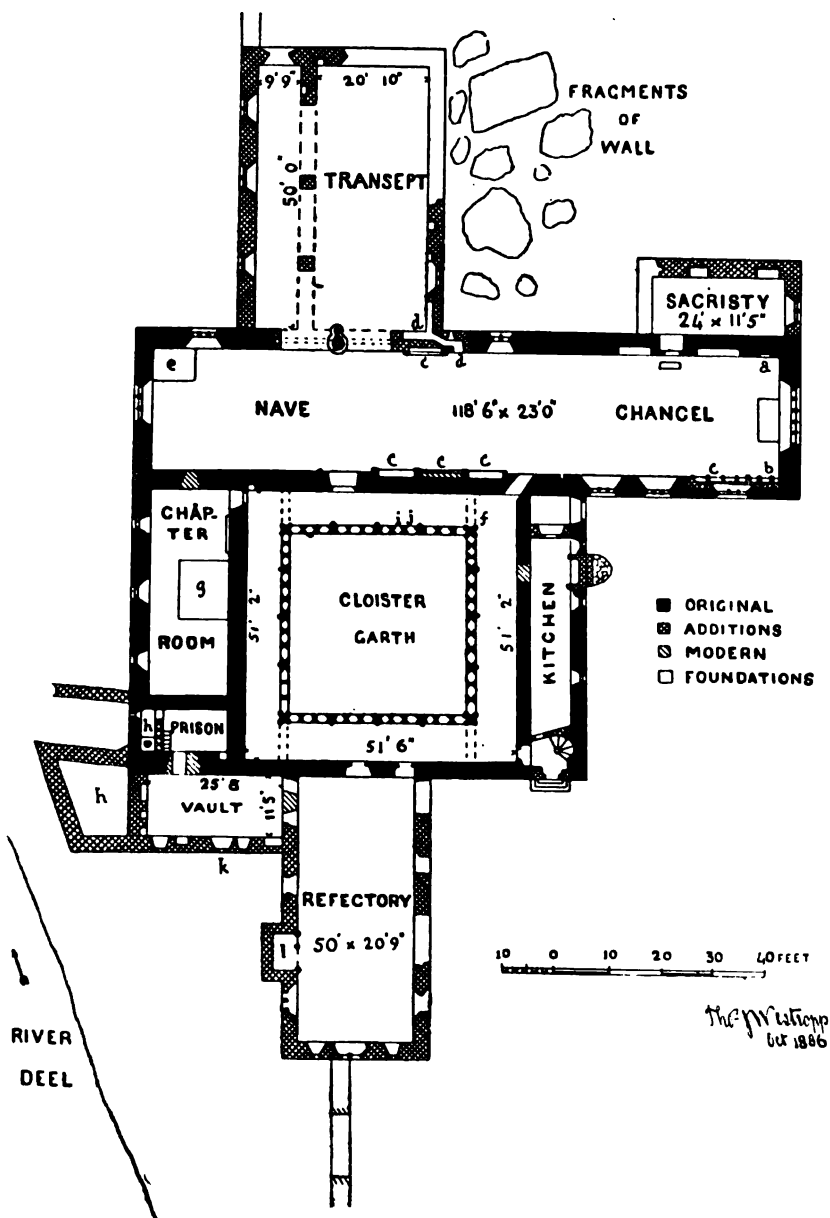




Plans of Limerick Cathedral and Old Abbey, Shanagolden.

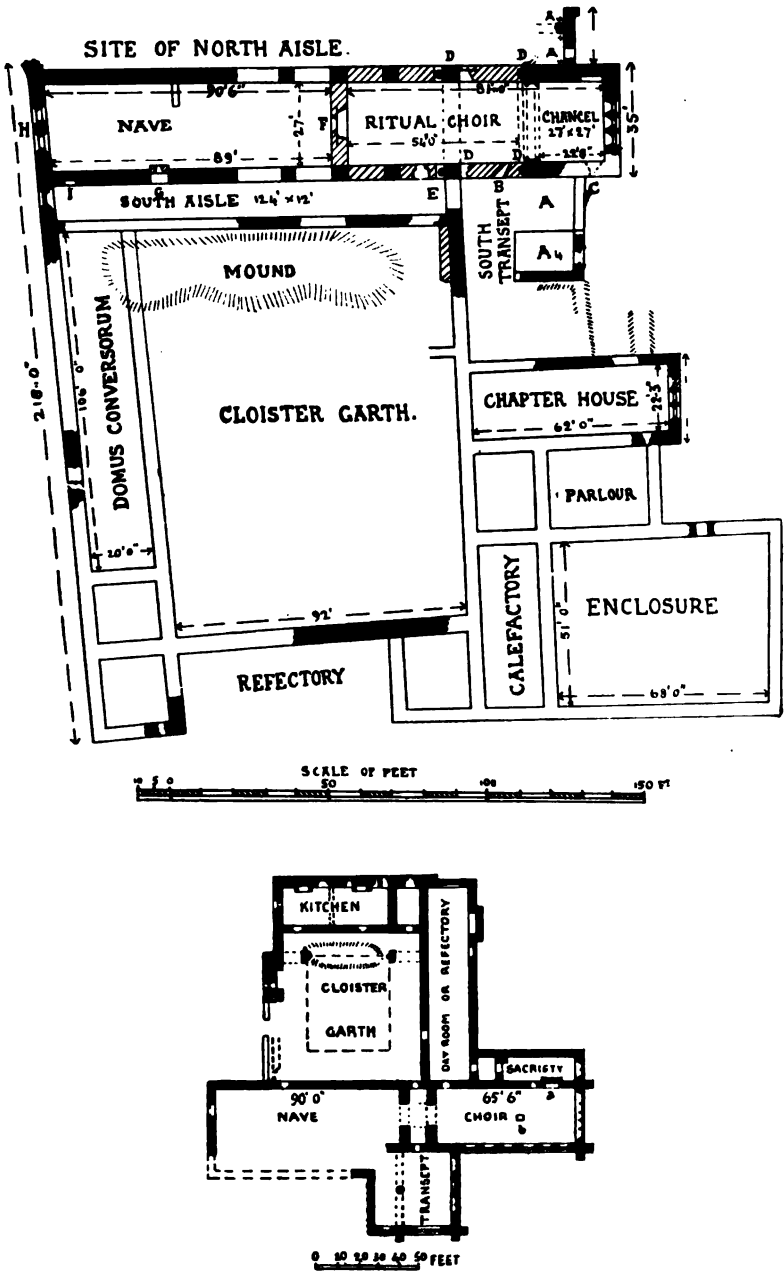
(For reference letters, see p. 480, *supra*.)





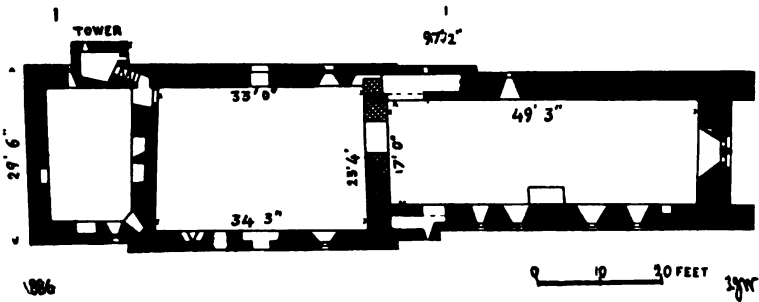
Plan of the Franciscan Convent, Askeaton.

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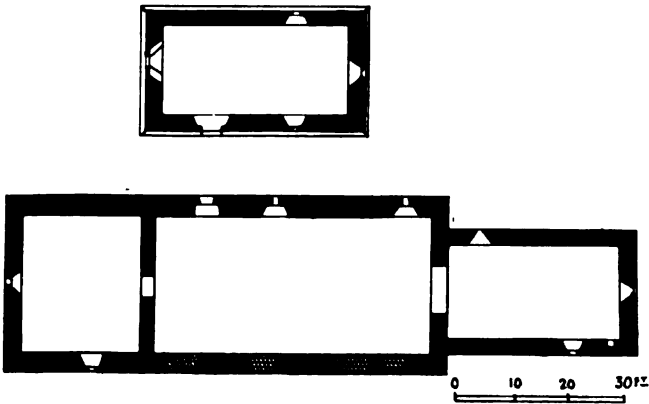


Plans of Monasteranenagh and Dominican Friary, Kilmallock.

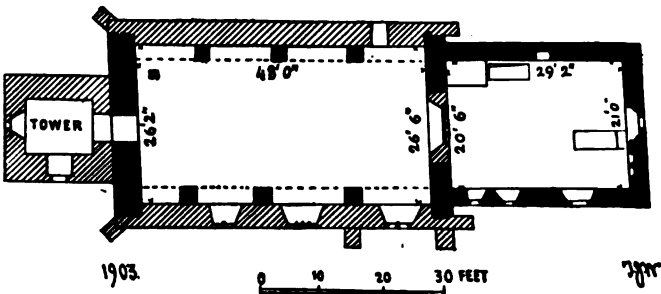
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Mungret Abbey.



Adare : Desmond's Chapel and Parish Church.



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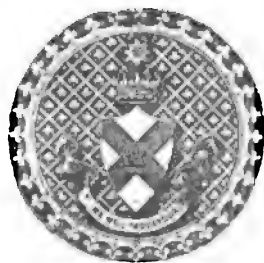
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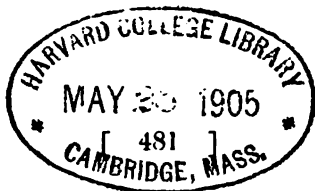
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Read JUNE 27, 1904. Ordered for publication FEBRUARY 15, 1905. Published APRIL 4, 1905.

THE collection of Charters and Documents relating to the history of St. Patrick's Cathedral, of which a Calendar is here printed, is contained in a handsome vellum book (12½ inches by 9½ inches) preserved in the archives. The collection is a miscellaneous one—papal confirmations, royal letters-patent, Acts of Parliament, episcopal letters, and grants of land being entered side by side without any pretence of exact chronological sequence. The volume might be described as a Chartulary; and it is of the same character as the *Liber Niger* of Christ Church Cathedral, the *Credo Mihi*,¹ and Archbishop Alan's *Register*,² of which the two last-named are in the custody of

¹ Printed in full by J. T. Gilbert (1897).

² This volume of miscellanea is often called the *Liber Niger*. But it is quite a distinct book from the *Liber Niger* of Christ Church; and it is desirable that it should be given its proper title. As much confusion exists in the references to Alan's *Register*, it may be well to set down the facts as to the various forms in which it is extant. The original vellum book (A) compiled in the sixteenth century for Archbishop John Alan is in the custody of the Archbishop of Dublin so far as Part II. is concerned; but Part I. is missing, and has been missing for many years. Of Part II. a considerable number of pages are lost; and while the numeration at the foot of the pages in Arabic figures gives the pagination of the volume in its present condition, that in Roman figures at the top of the pages is the original.

In the Archbishop's custody there is also a fine vellum copy (A₁) of both parts of A, which was made before any pages had been lost. It was probably made in the first quarter of the eighteenth century, certainly before 1741, as appears from a reference to it in the *Dignitas Decani*, made by Dr. John Lyon. It retains in the margin the original pagination.

Next there is a copy of the Register in Marsh's Library (M) which also was made while the original was in a perfect condition. He professes to indicate in the

the Archbishop of Dublin, and have some entries in common with the book before us. The binding is modern; and it is lettered on the back "*Dignitas Decani Eccles. S. Pat. Dublin*," an abbreviation of the phrase, "*Dignitas decani et omnium canonicorum*," &c., which occurs several times in the later charters, and refers to the privilege granted to the Chapter by Archbishop Comyn in his foundation Charter, exempting them from episcopal visitation, save in their own chapter-house. This exemption was very highly prized, and was regarded as the central feature of the privileges of the Dean and Canons of St. Patrick's Cathedral. Hence this Chartulary or collection of deeds relating to Chapter property and privilege came to be designated in a lax way as the "*Dignitas Decani*," although it concerns the Dean no more than it concerns any other member of the capitular body.

The Chartulary began to be compiled at the end of the fifteenth century or beginning of the sixteenth; several hands may be traced, but none earlier (I think) than 1500. The initial letters are in many instances not filled in, a space being left for the illuminator or artist to work in; but for the most part they are roughly done in ink. A very few initials (such as those on pp. 3, 9, 39, 198, 202, 208) show some artistic or decorative instinct, and there are a couple of grotesque heads which are tolerably drawn (on pp. 11, 12). The intertwined snakes on p. 48 may, perhaps, be a distant reminiscence of Celtic design, but there is nothing remarkable about them. On pp. 146, 150, 155, where documents relative to Maynooth begin, the initial U is fashioned so as to recall the FitzGerald shield; and upon the U on p. 146 is inscribed the FitzGerald motto, "*Crom a bo*." From p. 181 to p. 192, and from p. 225 to the end, the writing is in the

margin the pages of its exemplar; and (as the pagination of the book itself is not carried very far) it is convenient to refer to it by these pages—thus: M 5 *mg*.

The Trinity College copy (T), numbered MS. 554 in the Library Catalogue, was also transcribed while A was unutilized, and the original pagination is entered in the margin. It is badly written, and is the work of a poorly educated scribe.

The late Bishop Reeves made an elaborate and complete transcript from A, collating M and T, and incorporating all the additional matter they contain. His copy (R) is numbered 1061 among the Trinity College mss., and a rough calendar of the contents was printed by the late Professor G. T. Stokes in the *Journal* of the Royal Society of Antiquaries (Ireland) for 1896-7. R has been enriched by valuable indexes to the proper names which occur in it, compiled by Mr. T. J. Westropp.

I have thought it well to give the reference in each case to all these extant forms of the *Register*, as it may facilitate the labour of those who wish to consult it for other purposes.

hand of Dr. John Lyon (d. 1790), who was a minor canon, and afterwards a Prebendary of St. Patrick's during the eighteenth century. He was a diligent antiquary and a careful scribe; and he made many additions and corrections throughout the book, and provided it with a rough table of contents. Pp. 192 to 216 are written in a more formal sixteenth-century hand than the rest of the volume.

A half-obliterated note on the fly-leaf at the end shows how carefully the book was examined by the antiquaries of the seventeenth century. It is by George Andrews, who was precentor from 1603 to 1635, and afterwards became Bishop of Ferns: "Observatio utilis facta per Geo: Andrews Precentorem Sti Patricii super primam uocem lineae ultimae in posteriori pagina fol. 112, viz 'successorum' destruit sensum. Esset quidem 'praedecessorum' et ita indagando reperi in Ffiant literae patentes . . . in exemplificatione anno xi Elizabethae sub sigillo. Et [successorum] erat ac vitium scriptoris quod corrigendum, ut res magis ualeat quam pereat.—G. A. Nov. 19, 1631." If we look back to fol. 112 *v*, i.e. p. 224 according to Dr. Lyon's pagination (which I have followed throughout), we shall find that no trace either of 'successorum' or of 'praedecessorum' remains, for the document in which the latter word occurs (the Restitution Charter of Philip and Mary, No. 122 below) has been emended by a scribe later than Andrews' day, and the sentence to which he refers has been erased.

A fair transcript on vellum of the whole volume is preserved in the archives, and seems to have been made about the beginning of the nineteenth century; it is tolerably accurate, although the transcriber misses the meaning of a word here and there. I have given a reference to its pages, as well as to those of the original, in the Calendar which follows.

The so-called "Dignitas Decani" was diligently consulted by Mr. Monck Mason for his *History of St. Patrick's Cathedral*, published in 1820, and also by Archdeacon Cotton for his *Fasts*. But it has been unnoticed for many years, save by these antiquaries, and was at one period nearly lost. We have a letter in the archives from Mr. W. Shaw Mason, dated 1835, saying that he had found this "curious relic of antiquity" among his private papers, it having come into his hands as Secretary to the Record Commissioners, in Dean Keatinge's time. Mr. Mason courteously restored the precious volume to its former home; but I am afraid that many manuscripts have been lost to the Cathedral owing to a similar carelessness on the part of their proper custodians.

A few extracts from this book are contained in a manuscript in the Library of Trinity College, Dublin (MS. 842, No. 18); but they are of no special interest.

In the *Calendar* I have given a reference to Mason's *History*, wherever that indefatigable compiler has summarised the contents of any of the following documents; and I have also given references to the other ms. collections in which any of the deeds are (to my knowledge) contained. I have printed the names of witnesses in full, as these are often useful to students of local history. Perhaps at some future time, the book, of which a *Calendar* only is now offered, may be made accessible to the public in its entirety; it is, I think, quite as worthy of the honours of print as many of the collections which have been published of recent years.

CALENDAR OF DOCUMENTS IN THE COLLECTION CALLED DIGNITAS DECANI
ET CAPITULORUM S. PATRICII DUBL.

[The ordinary figures denote No. of document; the heavy figures date of document.]

1. Charter of Archbishop Comyn, establishing Prebends in the
1190. Church of St. Patrick. p. 1 (copy p. 1).

ending "qui custodient communiam sancti Patricii uel aliorum duorum qui interesse poterint. Hiis testibus S. abbate sancti Thome Dublin, R. priore sancte Trinitatis, W. archidiacono Dublin., D. priore Hospitalis sancti Iohannis, Elia canonico sancti Augustini, magistro Thoma, Roberto decano Dublin., R. decano de Swerdes, Gregorio decano, Matthaeo, Andrea, Willelmo, Gregorio, Alexandro n. capellanis, Osberto Essel (?), W. de Marisco, Simone Cumin (?), Roberto de Crumel, Willelmo de G., et multis aliis."

This document also occurs in Alan's *Register* (Pt. i. fol. 20 (def.) = T 60, M 42 mg, R 98). It is printed in full in the Appendix to Mason's *History of St. Patrick's Cathedral*, p. i.

2. Charter of Archbishop Henry, founding Precentorship,
1219. Chancellorship, and Treasurership. p. 3 (copy p. 4).

ending "duximus roborandum. Testibus canonicis dicti capituli et magistris Iohanne de Taunton et Ricardo de Werminstre, Galfrido de Toruilla, magistro Petro et Philippo capellanis, Warino et Rogero clericis et multis aliis."

A shorter form of the next entry (no. 3), *q.v.*

3. Charter of Archbishop Henry, founding the offices of Dean, 1219. Precentor, Chancellor, and Treasurer. p. 5 (copy p. 7).

A fuller form of no. 2, also found in the *Liber Niger* of Christ Church, fol. 21. Printed in Mason's *Appendix*, p. vii. This document has been styled the Magna Charta of St. Patrick's.

4. Charter of Archbishop Henry, granting each canon jurisdiction. 1224. tion in his own prebend, as at Salisbury.

p. 8 (copy p. 11).

ending "Hiis testibus domino R. Darense episcopo. R. et D. sanctae Trinitatis et sancti Iohannis Dublinensis prioribus, magistro Thoma de Cornill, Philippo priore de Holmpatric, magistris P. de Fyssacre et W. de Lychefeld, Iohanne Fitz Andree, Rogero de Felda, Osberto de Crumelyn, Thoma et Iohanne clericis nostris, Hugone et Simone clericis domini Darenensis et multis aliis."

Also in Alan's *Register* (A cxviii (def.) = T 629, M 443 mg, R 1011). The Bishop of Kildare, who was a witness, was Ralph de Bristol, the first Treasurer of St. Patrick's; he was consecrated in 1223.

5. Charter of Archbishop Luke as to jurisdiction of Canons.

1234. p. 9 (copy p. 12).

ending "Datum apud Clontarreuf, tertio Id. Augusti anno consecrationis nostre septimo. Hiis testibus N[ehemia] episcopo Cloherensis, I[ocelino] Arddakadense, N. abbate sancti Thome Dublin, fratre Briano capellano nostro, H. clerico offic. Glindelachen, magistro Iohanne de Shippeham, et Stephano Prudume clericis nostris et aliis."

Repeated no. 30. Printed in Mason's *Appendix*, p. vi.

6. Charter of Archbishop Henry, granting the Canons independence of the Archdeacon's jurisdiction. 1220.

p. 10 (copy p. 14).

ending "Hiis testibus domino Roginaldo de Cornill, [Geruasio de Cornill, Iohanne de Lond., Humfrido de Erlonde, magistro Iohanne de Merleburg, magistro Hugone Fistico, domino Philippo capellano, Warino de Fissakere, et Rogero de Felda clericis, Reginaldo capellano, magistris Iohanne de Stafford et Willelmo de Lichefeld et multis aliis"]."

Repeated no. 29, the names in brackets being found only in the

later transcript. The original parchment is preserved in the Cathedral archives, but the seal has been lost. Copied in the *Novum Registrum* of Christ Church, p. 86 (see Calendar of Christ Church Deeds, no. 34), and printed in Mason's *Appendix*, p. v (see also p. 5).

7. Bull of Celestine III., confirming Archbishop Comyn's
1191. grants of prebends. p. 11 (copy p. 15).

Also in Alan's *Register* (A cxciij (def.) = T 607, M 431 mg, R 979); and printed in Mason's *Appendix*, p. ii (see also p. 68).

8. An abbreviated form of no. 7, the names of the prebendal
1191. churches being omitted. p. 12 (copy p. 17).

9. Bull of Gregory IX., confirming the Cathedral establish-
1229. ment. p. 13 (copy p. 18).

10. Bull of Gregory IX., confirming the Canons' privilege of
1238. jurisdiction in their prebends. p. 14 (copy p. 19).

See Mason, p. 108.

11. Bull of Honorius III., confirming the Cathedral establish-
1221. ment. p. 15 (copy p. 20).

Printed in Theiner's *Vetere Monumenta Hibernorum et Scotorum*, no. xlv, p. 18. See Mason, p. 5.

12. Bull of Clement IV., confirming the privileges of the
1266. Chapter. p. 15 (copy p. 21).

13. Bull of Nicholas IV., confirming the privileges of the
1289. Chapter. p. 16 (copy p. 22).

Repeated no. 42. See Mason, p. 114.

14. Letter of the Chapter of St. Patrick's to the Chapter of
1284. Salisbury, and Reply. p. 17 (copy p. 23).

Printed in Mason's *Appendix*, p. iv; cp. Mason, p. 114.

15. Concession of the Convent of Malvern of half the tithes of
1225. Castleknock. p. 22 (copy p. 28).

ending "His testibus magistro Philippo de Bray, magistris Galfrido et Radulpho de Bristollis [magistris Iohanne de Taunton et Ricardo de Wermenister, magistro Ricardo de Gnoweshale et aliis multis]."

Repeated no. 25, the names in brackets being there added. See Mason, pp. 58, 106.

16. Confirmation of the preceding by Archbishop Luke.

1238. p. 23 (copy p. 31).

ending "Lucas Archiepiscopus sigillum suum una cum sigillis capitulorum sancte Trinitatis et sancti Patricii, Dublin, cum sigillis nostris presenti scripto duxit apponendum, Testibus et cum Philippo priore sancte Trinitatis Dublin, R. decano."

See Mason, p. 58.

17. Resignation by William Mareschall, Earl of Pembroke, of the

1226. Church of Moone to the Archbishop. p. 25 (copy p. 33).

See Mason, p. 69, *note*.

18. Presentation by William Mareschall, Earl of Pembroke, of

1226. (?) William de Insula to the Church of Moone.

p. 26 (copy p. 34).

In Alan's *Register* (A cxcvii (def.) = T 626, M 442 *mg*, R 1006).

See Mason, p. 69, *note*.

19. Grant of Tithes of Lord Pembroke's mills at Moone to the

1227. Church there for the Economy. p. 26 (copy p. 35).

In Alan's *Register* (A cxcvii (def.) = T 627, M 442 *mg*, R. 1009).

See Mason, p. 69.

20. Grant by Archbishop Henry of the Church of Moone to the

1227. Economy. p. 27 (copy p. 36).

ending "Teste eiusdem ecclesie capitulo et magistris I. de Taunton et Ricardo de Wermunstre et magistro Petro et Philippo capellanis, Warino et Rogero clericis, et Galfrido de Toruilla et multis aliis."

See Mason, pp. 73, 106.

21. Remission by Simon Mariscall of a house at Moone to the

1316. Chapter. p. 28 (copy p. 37).

ending "Hiis testibus Adam Tanner tunc preposito de Monecolumkyll, Philippo de Mone, Iohanne Hall, Odone Marscall, Willelmo Sennet et multis aliis. Dat. apud Mone, &c."

22. Agreement about the tithes at Castleknock.

c. 1227. p. 29 (copy p. 39).

See Mason, p. 106.

23. Partition of tithes of Castleknock between Chapter of St.

1249. Patrick's and Convent of Malvern. p. 31 (copy p. 41).

See Mason, p. 109.

24. Compromise between the Chapter and the Priory of Castle-
c. 1227. knock as to tithes near Finglas. p. 33 (copy p. 44).

ending "Hiis testibus Willelmo archidiacono Dublin, Audoenno Brun, Waltero Cumin, magistro Philippo de Bray, W. de Estham, Adam de Seruissend, Alexandro Albere, Stephano de Mesmeton, magistro Petro Manuersin, magistro Galfrido de Bristoll, Roberto Lutterrell, Willelmo de Ippe clerico, Benedicto de Lichessend¹ clerico et multis aliis."

Repeated no. 26. In Alan's *Register* (A ccv v^o (164 v^o) = T 642, M 450 mg, R 1027), without names of witnesses. See Mason, p. 106.

25. Same as no. 15. p. 34 (copy p. 46).

26. Same as no. 24. p. 36 (copy p. 49).

27. Confirmation of grant of Crumlin Church by King John
1216. to the Economy. p. 38 (copy p. 51).

ending "Testibus domino H. Dublin archiepiscopo, W. com. Sarr., W. Mariscallo com. Pembroke, G. Lutterrell, G. de Marisco, Rogero Pipard, Ricardo de Burgo, Radulpho paruo, magistro Arnaldo de Auclet; Dat. per manum Ricardi de Marisco cancellarii nostri apud Winton. xxvi. die Iunii anno regni nostri septimo decimo."

Printed, without the names of the witnesses, in *Crede Mihi*, fol. 88b (Gilbert's edition), and also in *Chartae, Immunitates, &c.*, p. 14. In Alan's *Register* (A lx v^o (55 v^o) = T 232, M 154 mg, R 376). See Mason, p. 69.

28. Grant of the advowson of Crumlin by William Fitz W.
1190. Fitz J. de Harptre to Robert his clerk.

p. 39 (copy p. 52).

ending "Hiis testibus Roberto de Westona, Aleandro filio Hugonia, Willelmo de Cantintona, W. Wibert, Thoma filio Willelmi filii Iohannis, et Pagano fratre suo, et Waltero fratre suo, et multis aliis."

In Alan's *Register* (T 232, R 376). See Mason, p. 73.

29. Same as no. 6. p. 39 (copy p. 53).

30. Same as no. 5. p. 40 (copy p. 54).

¹ Licheseud in second transcript.

31. Confirmation of privileges by Archbishop de Bicknor.
1314. p. 42 (copy p. 56).

See Mason, pp. 22, 118.

32. Lease by Archbishop Fulk de Sandford of lands at Taelach
1260. and Kiltipper to William Torrell. p. 44 (copy p. 59).

ending "Sigillum nostrum una cum sigillis capitulorum nostrorum predictorum fecimus apponi. Hiis testibus magistro Rogero de Sandinton, domino Anselmo Gobian, tunc senescallis domini Dublinensis, Luca camerario, Henrico Prudum, Simone de Taelach, Waltero Blundo, Thoma de Monandi, Iohanne Comyn, Simone hostiario de Clondolkan, Ranulfo camerario domini Dublin, Gilberto de Harleston, Adam clerico et aliis."

In Alan's *Register* (A. clxxix. v° (152 v°) = T 543, M 397 mg, R 897).

33. Election of Adam de Furneis as official general during
1294. vacancy of See. p. 45 (copy p. 61).

In *Liber Albus* of Christ Church, fol. 14b, and copied in *Novum Registrum*, p. 310. See Mason, p. 115.

34. Exemplification of brief of Edward III., forbidding institu-
1349. tion except under royal seal. p. 48 (copy p. 65).

See Mason, p. 123.

35. Letters Patent of Henry III., granting tithes of fish-ponds,
1230. &c. p. 49 (copy p. 66).

36. Letters of Archbishop Luke, requiring Canons to attend and
1247. take the oaths within a year of appointment.

p. 50 (copy p. 67).

Printed in *Chartas, Immunitates, &c.*, p. 26, from Alan's *Register* (A. cviii. v° (94 v°) = T 343, M 250 mg, R 573); also in *Credo Mihi*, fol. 103b (Gilbert's edition), and in Christ Church *Liber Niger*, fol. 64, p. 2. See Mason, p. 109.

37. Bull of Alexander IV. about revocation of indult concerning
1260. non-payment of tithes. p. 51 (copy p. 69).

Printed in *Chartas, Immunitates, &c.*, p. 29, from Alan's *Register* (A. xi = T 95, M 66 mg, R 169).

38. Grant by Archbishop Luke of Churches of Kilmesantan and
1231. Kilbride to the Economy. p. 53 (copy p. 71).

See Mason, p. 70, and cp. Ch. Ch. *Liber Niger*, fol. 64, p. 2.

39. Agreement with Roger Outlaw, Prior of Kilmainham.
1318. p. 53 (copy p. 72).

See Mason, p. 119, and cp. Theiner's *Monumenta* DCCCLXXIV.

40. Contract of said Prior to pay ten pounds of wax yearly for
c. 1320. Church of Rathmore. p. 55 (copy p. 74).

41. Bull of Innocent III. enjoining the Sarum use.
1216. p. 56 (copy p. 75).

Printed in *Chartas, Immunitates*, p. 16, &c., from Alan's *Register* (A. iii. v° = T 77, M 53 mg, R 140). See Mason, p. 22.

42. Same as no. 13. p. 57 (copy p. 76).

43. Authorization by Boniface VIII. to Prior of All Saints' to
1296. enquire into the encroachments of the Bishop of Ferns.
p. 58 (copy p. 77).

See Mason, p. 115, and D'Alton's *Archbishops of Dublin*, p. 110.

44. Confirmation by Archbishop de Feringes of his predecessor's
1304. grants of privileges to canons. p. 59 (copy p. 78).

Printed in Mason's *Appendix*, p. vi, and in *Credo Mihi*, fol. 108b (Gilbert's edition). Also in Alan's *Register* (A. cxxxvi. (122) = T 412, M 306 mg, R 699).

45. Ordinance of Archbishop Comyn confirming the same privi-
1191. leges as those enjoyed by the canons of Salisbury.
p. 61 (copy p. 81).

Printed in Mason's *Appendix*, p. 4.

46. Ordinance of Archbishop de St. Paul and Chapter as to
1359. visitations. p. 61 (copy p. 81).

Same as no. 94, with the exception of the last clause, giving the attestation of "Adam de Kyngeston clericus Lichefeldensis," public notary. This is printed in Mason's *Appendix*, p. xi; see also p. 123.

47. Charter of Archbishop Talbot constituting a College of six
1431. Minor Canons. p. 64 (copy p. 86).

Printed in Mason's *Appendix*, p. xxxiii; see also pp. 83, 132.
Another copy is in the Irish Record Office, among maps, &c., belonging to the diocese of Dublin (4 G. 85, 46, no. 9). See no. 142 below.

48. Letters Patent of Henry VI. confirming the College of Minor
1431. Canons. p. 68 (copy p. 90).

See Mason, pp. 49, 84.

49. Bull of Eugenius IV. confirming the College of Minor
1432. Canons. p. 72 (copy p. 96).

See Mason, pp. 4, 132.

50. Exemplification of the Confirmation Charter of Edward IV.
1474. p. 75 (copy p. 99).

The substance of this is in French; it is printed in Mason's *Appendix*, p. xiii; see also p. 22. The original charter, with the royal seal attached, is preserved in the Cathedral archives.

51. Letters Patent of Henry VII. relative to the floods of the
1496. Poddle River. p. 79 (copy p. 104).

The substance of this is in French; see Mason, p. 141.

52. Letters Patent of Henry VIII. relative to the floods of the
1526. Poddle River. p. 82 (copy p. 107).

The substance of this is in French; see Mason, p. 145.

53. Bull of Leo X. confirming the privileges of the Chapter and
1515. their relation to the Archbishop. p. 85 (copy p. 109).

Printed in Mason's *Appendix*, p. xv; see also p. 143. Repeated
no. 54.

54. Same as no. 53, with the addition of the two last clauses
1515. printed by Mason, which only appear in this second
transcript. p. 100 (copy p. 127).

55. Letters Patent of Edward III. dispensing with mortmain in
1364. the case of the manor of Coolmine, which was to maintain
certain chantries. p. 116 (copy p. 147).

See Mason, p. 76. Repeated no. 74.

56. Exemplification of the above Letters Patent under the great
 1384. seal of Ireland, signed by Philip de Courtenay, then Lord
 Lieutenant. p. 118 (copy p. 149).

See Mason, p. 76. Repeated no. 75.

57. Conveyance of the manor of Coolmine to Peter Hacket.
 1295. p. 120 (copy p. 152).

ending "Hiis testibus domino Iohanne Wogan tunc temporis justiciario Hiberniae, domino Iohanne de Woneuyle, domino Nigello le Brun, domino Alberto de Kenleye, domino Waltero de Kenleye, et multis aliis."

See Mason, p. 75. Repeated no. 79.

58. Reduction of rent of Coolmine due to Hacket.
 1328. p. 121 (copy p. 153).

See Mason, p. 76. Repeated no. 78.

59. Remission of 20s. rent of Coolmine for eleven years.
 1328. p. 122 (copy p. 155).

See Mason, p. 76. Repeated no. 77.

60. Grant in fee of Coolmine from G. Crumpe to Archbishop de
 1329. Bicknor. p. 123 (copy p. 156).

ending "Hiis testibus Raginaldo de Warneuell, Barino Osweyn, Machometo de Cruz, Iohanne le Marshall de Rathcoll seniore, Willelmo Dons et multis aliis."

See Mason, p. 75. Repeated no. 76.

61. Surrender of Coolmine rentcharge to Archbishop de Bicknor
 1335. by Elena le Petit. p. 124 (copy p. 157).

See Mason, p. 76. Repeated no. 80.

62. Surrender of Coolmine rentcharge to Archbishop de Bicknor
 1335. by John FitzP. Hacket. p. 124 (copy p. 158).

ending: "Hiis testibus domino Elia de Assheburne milite, Iohanne Haket de Stalorgan, Arnoldo Clement, Thoma Wodlok, Simone Luttrell, Henrico de Notynggham, et multis aliis: Dat. apud Ffynglas, &c."

See Mason, p. 76. Repeated no. 81.

63. Assignment by said Archbishop of rights in Coolmine to the
1349. Chapter. p. 125 (copy p. 159).

This is in French ; see Mason, p. 76. Repeated no. 82.

64. Grant of Coolmine by said Archbishop to the Chapter.
1349. p. 126 (copy p. 160).

ending "Hiis testibus Elia de Asheburne, Ffremundo le Bruyn
et Ricardo le Butler militibus, Richardo Snyterby senescallo nostro,
Ulfrano de Berneuale, Iohanne Haket, Petro Harold, Thoma de Blak-
burne, et multis aliis."

See Mason, p. 76. Repeated no. 83.

65. Nomination of Simon Hirdman as Archbishop's attorney for
1349. the transfer of Coolmine to the Chapter.

p. 127 (copy p. 162).

See Mason, p. 76. Repeated no. 84.

66. Nomination of Chapter's attorneys in same case.
1349. p. 128 (copy p. 162).

See Mason, p. 76. Repeated no. 85.

67. Nomination of attorneys in the same matter.
1366. p. 128 (copy p. 163).

See Mason, p. 76. Repeated no. 86.

68. Bull of Sixtus IV., empowering Bishop of Kildare and
1483. others to enquire into seizure of land at Castleknock by
the Prior of Kilmainham. p. 129 (copy p. 164).

See Mason, p. 139; and cp. Theiner's *Monumenta*, DCCCLXXIV.

69. Commission empowering James Cogan, Prior of Holmpatrick,
1483. to try said case. p. 131 (copy p. 167).

See Mason, p. 139.

70. Oath of Dean and Chapter under seal to defend their
1306. liberties. p. 144 (copy p. 181).

This document, hitherto unpublished, is sufficiently interesting
to be printed here in full.

Uniuersis sanctae matris ecclesiae filiis presentes literas uisuris
uel audituris Thomas decanus, Willelmus de Rodyard, thesaurarius,
Willelmus de Hothom, Iohannes Patrik, Nicholaus de Kynngton,
Richardus de Berforde, Thomas de Sneterby, Willelmus de Moens,

Walterus de Istelep, Iohannes de Hothom, Walterus de Glymifford et Ricardus de Moselwyk, canonici ecclesiae sancti Patricii Dublinensis cathedralis in Hibernia commorantes eternam in domino salutem : Cum oporteat laudabile principium fine laudabili concludi, quia finis non principium pugnam coronat, pro sollicitudine nostri laboris adicere intendimus et coimplere quod usum est in ecclesia nostra defuisse et in statum debitum ecclesiam nostram redigere et precipue ad statum in quo erat tempore uenerabilium Iohannis Henrici et Lucae archiepiscoporum Dublinensium cuius status pro aliquorum negligentia temporibus retroactis contra primitiuam eius foundationem multipliciter dinoscitur in suis uiribus et libertatibus perturbari, nos igitur unanimi spontanea et concordii uoluntate cupientes matris nostrae predictae statum summa ope reformare et ipsam ad suas libertates quantum possumus redigere et in eisdem ipsam conuouere in fide qua dictae ecclesiae matri nostrae sumus affecti promittimus fideliter et obligamus nos quod omne consilium et auxilium apponemus contra quoscumque ipsam deprimere uel eiusdem libertates infringere quomodolibet mollientes tam per nos quam per amicos nostros et sumptus et inueniemus tam de communibus bonis ecclesiae nostrae quam de propriis cuiuslibet nostrorum in quantum et quotiens prefatum negotium requireret ut noster status et sepefatae ecclesiae nostrae ad instar Salesburiensis ecclesiae ab initio per cartas archiepiscoporum Dublinensium concessus et auctoritate apostolica confirmatur in multis postea per quorundam usurpationem dimin[u]itur in formam debitam iuxta ipsius primitiuam foundationem quo ad statuta seu constitutiones redigatur. Si quis autem nostrum uel absentium fratrum nostrorum quispiam huic uoluntati et consensu tacite uel expresse contradixerit aut in futurum contrauenerit aut hanc nostram uoluntatem cuiquam in dampnum nostrum uel ecclesiae nostrae communicauerit eo ipso habeatur pro periurio et a fratrum communione et societate ut scismaticus et periurus in perpetuum excludatur. Et ut ista nostra prouisio uinculo fortiori roboretur corporali sacramento nos astriximus etiam sigilla nostra presentibus apposuimus una cum sigillo capituli nostri. Datur in capitulo nostro sancti Patricii die sanctae Petronillae uirginis anno domini millesimo tricentesimo sexto.

See Mason, p. 117.

71. Confirmation by Archbishop Rokeby of the establishment of 1518. the College of Maynooth. p. 146 (copy p. 184).

See Mason, p. 61 ; and above, p. 482.

72. Collation of Prebend of Larabryne to the College of Maynooth.
1521. p. 150 (copy p. 189).

See Mason, pp. 62, 63.

- 73 Attachment of Vicarage of Larabryne to the College of
1521. Maynooth, on conditions. p. 155 (copy p. 195).

See Mason, pp. 62, 63.

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| 74. Same as no. 55. | p. 160 (copy p. 201). |
| 75. Same as no. 56. | p. 161 (copy p. 203). |
| 76. Same as no. 60. | p. 163 (copy p. 205). |
| 77. Same as no. 59. | p. 164 (copy p. 206). |
| 78. Same as no. 58. | p. 165 (copy p. 207). |
| 79. Same as no. 57. | p. 166 (copy p. 209). |
| 80. Same as no. 61. | p. 167 (copy p. 210). |
| 81. Same as no. 62. | p. 167 (copy p. 211). |
| 82. Same as no. 63. | p. 168 (copy p. 212). |
| 83. Same as no. 64. | p. 169 (copy p. 213). |
| 84. Same as no. 65. | p. 170 (copy p. 214). |
| 85. Same as no. 66. | p. 170 (copy p. 215). |
| 86. Same as no. 67. | p. 171 (copy p. 216). |

87. Contract of Convent of St. Wolstan's in the matter of the
1319. Church of Rathcomney. p. 172 (copy p. 217).

See Mason, p. 119.

88. Donation of Archbishop de Bicknor to the Economy of certain
1348. houses and gardens opposite St. Sepulchre's.
p. 172 (copy p. 218)

ends "*Hiis testibus domino Elia de Assheburne milite Richardo de Sniterby senescallo nostro, Kenewreico Scherman maiori ciuitatis Dublin, Iohanni Seriannt, Galfrido Crompe, Ade Louestoke, ciuibz Dublin, Walfridano Barnewall, Iohanne Hallet, Thoma Blakeburne, Ade Blakeburne, Ricardo filio Willelmi et multis aliis,*" &c.

See Mason, p. 122.

89. Grant to Chapter by Wido de Cornwall of a plot of ground
c. 1244. near the Canon's houses. p. 174 (copy p. 220).

ends "*Hiis testibus G. de Turwill tunc temporis thesaurario domini*

regis, Warino de Fishacre tunc temporis camerario domini regis et multis aliis."

See Mason, p. 107.

90. Grant by William Godman of 3s. annually for wax lights for
c. 1267. the Lady Chapel. p. 174 (copy p. 221).

ends: "Hiis testibus Waltero Unred tunc temporis maiore Dublin, Thoma de Couyntre Willelmo de Notyng tunc propositis, Simone Unread, Iohanne Pflemyng, Iohanne de sancta Brigida executoribus predicti Willelmi medici et aliis."

See Mason, p. 111.

91. Lease from Walter de Euyas, Prior of the Friars Hospitalers
Date of Jerusalem, to Turllano de Balimore of a burgage outside
uncertain. Newgate. p. 175 (copy p. 222).

ends: "Hiis testibus fratre Laurentio, fratre Iordano, fratre Rollando capellanis, fratre David de Castello, fratre Nichola de Marisco, fratre Hugone de Alneto, fratre Roberto Ture, fratre Waltero de Londesie, fratre Rogero clerico, fratre Ade de Snaudi, fratre Henrico, fratre Roberto de Tatewich, fratre Ioh. fil. Hugon. Will. capellanorum.†"

92. Grant of a messuage within the Liberties.
1366. p. 176 (copy p. 223).

See Mason, p. 76.

93. Letter of Archbishop Luke to Convent of Holy Trinity,
c. 1240. ordering them to pay out of the manor of Balscadden
eighteen librates annually to Dean and Chapter of St.
Patrick's. p. 177 (copy p. 224).

See Mason, p. 110; and cp. *Crede Miki*, fol. 89a, *Nov. Registr.* of Ch. Ch., p. 163, and Charter Rolls of 4 Feb., 1251.

94. Same as no. 46. p. 178 (copy p. 225).

95. Regulations as to residence of canons extracted from the
Nova Constitutio of Sarum. p. 181 (copy p. 230).

Printed in Mason's *Appendix*, p. iii; see Frere's *Use of Sarum*, I., 262.

[Nos. 96 to 102 inclusive are copied in the hand of Dr. John Lyon

(a member of the Chapter from 1751 to 1790), from ancient registers ; they are not in the copy of the *Dignitas Decani*.]

96. Grant by the Chapter of certain lands to William de Hothun,
1302. Canon. p. 183.

Copied from Alan's *Register* (Pt. I., fol. i. (def.) = T 1, M 1 mg, R 3).

97. Instrument by Dean Chaddesworth in reference to a dispute
1300. about a house in the Coombe between the Chapter and Wm. de Ley. p. 184.

ending : " Testes sunt hii, E. Theuardus tinctor, Thomas de Kermorgin, Radulphus Mingoth, et Dionisia uxor eius et quidam alii, &c."

Copied from *Crede Mihi*, fol. 103b ; printed in Gilbert's edition.

98. Letters Patent licensing Dean Alleyne to sue at Rome for
1467. benefices. p. 185.

Copied from the Irish Chancery Rolls. See Mason, p. 136.

99. Act of Resumption not to apply to grants made to John
1467. Alleyne, Chaunter, and Walter Kyndon, Prebendary of Swords. p. 187.

This is in French ; it is copied from the Chancery Rolls. See Mason, p. 136.

100. Act of Parliament empowering Dean Alleyne to be compen-
1468. sated for dilapidations at Deanery. p. 187.

This is in French ; it is copied from the Chancery Rolls. See Mason, p. 136.

101. Act of Parliament enforcing Residence. p. 190.
c. 1468.

This is in French ; it is copied from the Chancery Rolls.

102. Act of Resumption not to apply to certain grants.
1477. p. 191.

This is in French. See Mason, p. 139.

103. Assignment by Archbishop Henry of lands of Clonwanwyr
c. 1219. and Kilbery and Church of Clonardmagory to the Deanery. p. 192 (copy p. 231).

ending: "In cuius rei testimonium presenti scripto sigillum nostrum una cum sigillis capitulorum nostrorum sanctae Trinitatis et sancti Patricii Dublin. apponi fecimus. Hiis testibus presentibus abbate sancti Thome Dublin, et priore sancti Iohannis extra nouam portam, domino G. Mar, Gilberto de Lych-, Galfrido de Toruilla magistro Iohanne de Merleberge et multis aliis."

There is an eighteenth-century paper copy of this in the archives. See Mason, p. 26.

104. Assignment by Archbishop Henry of Tallaght, &c., to the
c. 1220. Deanery. p. 192 (copy p. 232).

ending: "Quod ut ratum permaneat presenti scripto sigillum nostrum una cum sigillo capituli sancti Patricii Dublin. est appensum. Hiis testibus domino Radulfo Darensi episcopo, domino Rogero priore sanctae Trinitatis Dublin, magistro Thoma cancelario sancti Patricii Dublin, domino Roberto Luttrell eiusdem ecclesie thesaurario, magistro Daniele priore sancti Iohannis extra nouam portam Dublin, dominis Philippo de Holmpatrick, Ricardo Omnium Sanctorum prioribus, domino Galfrido de Toruilla archidiacono Dublin, magistro Ricardo de Gnowessale archidiacono Glindelacensi, magistro Galfrido de Bristoll, domino Gilberto Commen, domino Ricardo le Corner, magistro Iohanne de Tantun, domino Waltero de Londoniis, domino Roberto Blundo, domino Benedicto de Lychfelde eiusdem ecclesiae canonicis, Warino de Fissacre tunc domini Henrici Dublin. archiepiscopi cancellario, domino Willelmo de Piro et multis aliis."

Also in Alan's *Register* (Pt. i., fol. i. (def.) = T 1 v, M 1 mg, R 6). There is an eighteenth-century paper copy in the archives. See Mason, p. 26.

105. Assignment by Archbishop Henry of a moor near Clondawair
c. 1220. to the Deanery. p. 193 (copy p. 234).

ending: "Hiis testibus magistro Thoma cancellario Dublin. R. Luttrell thesaurario, G. de Toruilla archidiacono, R. le Corner, W. de London, magistro W. de Lychfelde, Petro de Fissacre, Rogero de Felde, Roberto de Bosce, Osberto de Cromelin, War de Fissacre, et aliis."

There is an eighteenth-century paper copy in the archives. See Mason, p. 27.

106. Confirmation by Archbishop Luke of Tallaght to the
c. 1229. Deanery. p. 193 (copy p. 235).

There is an eighteenth-century paper copy in the archives. See Mason, p. 107.

107. Confirmation by Gregory IX. of the Church of Telachmagory
1230. to the Deanery. p. 193 (copy p. 236).

There is an eighteenth-century paper copy in the archives.

108. Commission of Innocent VIII. to the Bishop of Meath and
1489. others to inquire into the complaint of Dean Alleyne
about lands. p. 194 (copy p. 237).

See Mason, p. 140.

109. Ordinance of Archbishop de Saundford annexing Clonard to
1259. the Deanery, on conditions. p. 194 (copy p. 239).

See Mason, p. 110.

110. Confirmation by Archbishop Luke of Clondalkin, Tallaght,
c. 1230. &c., to the Deanery. p. 195 (copy p. 241).

There is an eighteenth-century paper copy in the archives. See Mason, p. 107.

111. Confirmation by D. MacGilleholmoc, and Dervorgil his wife,
c. 1190. of the lands held by one Lifled to the Church of Clon-
dalkin. p. 196 (copy p. 242).

ending: "Hiis testibus Gregorio Dublin. decano, Alano capellano, Daniele capellano, Turstino de Balimore, Gregorio capellano sancti Patricii, Martino capellano et aliis."

In *Crede Mihi*, fol. 94, and printed in Gilbert's edition without the names of the witnesses. See Mason, p. 26n. Cp. for this Donald MacGilleholmoc and his wife, Gilbert, *History of Dublin*, i., 232.

112. Grant by Richard Hacket to Dean Hill of land at
1441. Clondalkin. p. 196 (copy p. 243).

113. Grant by Henry III. to Dean Fitz Guy of 2 acres at
1229. Eaker. p. 197 (copy p. 244).

In Alan's *Register* (A. cxcix. (def.) = T 638, M 448 mg, R 1023). See Mason, p. 27.

114. Confirmation by Gregory IX. to the Deanery of various
1227. churches conceded thereto by the Archbishop.
p. 197 (copy p. 244 bis).

Printed in *Chartae, Immunitates, &c.*, p. 20, from Alan's *Register* (A. vii. v^o = T 87, M 60 mg, R 156).

There is an eighteenth-century paper copy in the archives. See Mason, p. 26.

- 115 Agreement between Dean Rodyard and Gilbert le Bede
1325. about Kilbery. p. 198 (copy p. 245 *bis*).

To this deed the seal of the Dean, as well as the common seal of the Dean and chapter, was affixed. See Mason, p. 27.

116. Commission by Papal Penitentiary to Dean Rodyard,
1329. empowering him to hear Archbishop de Bicknor's
confession of certain crimes. p. 199 (copy p. 249).

See Mason, p. 122.

117. Demise by Dean Alleyne to Simon Gower of glebe of St.
1479. Maelruain, Tallaght. p. 201 (copy p. 252).

See Mason, p. 28.

118. Depositions of Dean Fyche and others about lands at
1533. New Grange, Clondalkin, &c. p. 202 (copy p. 254).

119. Act of Archbishop Browne uniting the parishes of New
1540. Grange and Kilmacudrik with Clondalkin.
p. 209 (copy p. 265).

See Mason, pp. 27, 148.

120. Licence of Henry VIII. to Archbishop Browne to grant
1540. 7 acres at Deansrath to the Deanery, for two capons
yearly. p. 210 (copy p. 267).

See Mason, p. 148.

121. Royal licence exempting Dean and canons from personal
1544. attendance at benefices in other dioceses.
p. 213 (copy p. 272).

See Mason, pp. 27, 149.

122. Restitution charter of Philip and Mary.
1555. p. 217 (copy p. 280).

This has been re-written, and many erasures and additions appear. The copy so amended is attested by Ri: Wallis clericus in officio magistri Rotulorum, and there is a later attestation by Geo. Thornton in 1677. See above, p. 483.

Printed in Mason's *Appendix*, p. xx.

Repeated (more accurately), no. 137.

Dr. Lyon has added a note: "N.B.—When Lord Chancellor Weston was Dean of St. Patrick's, he found the above-written charter of his cathedral (as it was inrolled in the reign of Philip and Mary) to be very imperfect, and therefore took care to have it again inrolled in the 11th of Elizabeth, as you may see it faithfully copied in this book, p. 239, &c."

[The copy of the *Dignitas Decani* ends here; and what follows in the original book is in Dr. John Lyon's handwriting.]

123. Act of Parliament concerning the title of Vicars Choral to
1472. lands at Shanganagh. p. 225.

This is in French; it is copied from the Chancery Rolls. See Mason, p. 90.

124. Act of Parliament concerning Vicars' Land at Clondalkin.
1472. p. 226.

This is in French; it is copied from the Chancery Rolls. See Mason, p. 90.

125. Act of Parliament reserving privileges of Dean and
1475. Chapter. p. 227.

This is in French; it is copied from the Chancery Rolls.

126. Act of Parliament concerning petition of Dean and Chapter
1475. as to Vicars' rights, as above. p. 227.

This is in French; it is copied from the Chancery Rolls.

127. Statute protecting Dean and Chapter against depredations.
1476. p. 239.

This is in French; it is copied from the Chancery Rolls.

128. Grant by Archbishop Comyn of a mill to the economy.
c. 1210. p. 230.

Copied from the *Liber Niger* of Christ Church, fol. 65a; also in Alan's *Register* (A. cxvii (def.) = T 628, M 443 mg, R. 1010). See Mason, p. 69.

129. Extract from Act of Parliament protecting the Vicars.
1492. p. 230.

This is in French; copied from the Chancery Rolls.

130. Statute exonerating Dean and Chapter from taxes.
1492. p. 230.
 This is in French ; it is copied from the Chancery Rolls.
131. Statute preserving rights of Vicars Choral.
1494. p. 231.
 This is in English ; it is copied from the Chancery Rolls.
132. Surrender by Dean and Chapter to the King's Commissioners
1546. of the Cathedral and its revenues. p. 332.
 Copied from the Chancery Rolls. See Mason, p. 150.
133. Certificate empowering said Commissioners to receive
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 Copied from the Chancery Rolls. See Mason, p. 150.
134. Letter of Elizabeth recommending Archbishop Loftus for
1564. the Deanery. p. 235.
 This is in English ; it is copied from the Chancery Rolls. See
 Mason, p. 166.
135. Letters Patent of Elizabeth as to collection of first-fruits.
1562. p. 236.
 Copied from the Chancery Rolls. Printed in Mason's *Appendix*,
 p. xxvi.
136. Judicial decision as to legality of lease made by Archbishop
1568. Browne without consent of Chapter, after the Dissolution. p. 237.
 This is in English ; it is copied from the Chancery Rolls. See
 Mason, p. 150.
137. Same as No. 122. p. 239.
 Copied from the Chancery Rolls in 1741.
138. Grant by Archbishop Luke to Vicars Choral of land for
1244. building. p. 257.
 Copied from Alan's *Register* (Pt. i., fol. 21 (def.) = M 45 mg, R 106).
 Printed in Mason's *Appendix*, p. xxxvi.
139. A city exemplification of a record as to the Archbishop's
1576. patronage. p. 258.
 Copied from the Chancery Rolls. Also in Alan's *Register*
 (A. clxxviii. (151) = T 537, M 392 mg, R 890).

140. Charter of Charles I. incorporating Vicars Choral.
1640. p. 259.

This is in English ; it is copied in part only. Printed in full in Mason's *Appendix*, p. xxxvi.

141. Charter of Henry VIII. incorporating minor Canons.
1519. p. 271.

Copied from the original deed in the archives. Printed in Mason's *Appendix*, p. xxxv.

142. Archbishop Talbot's Constitutions of the minor Canons.
1432. p. 273.

Printed in Mason's *Appendix*, 'ex autographo,' without the final attestation clause as given in this copy.

Another copy is in the Irish Record Office among maps, &c., belonging to the Diocese of Dublin (4 G. 85. 46, No. 10).

143. Memorandum of a Royal grant of 5 marks annually to the
1494. Minor Canons. p. 275.

This in English ; see Mason, p. 85.

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of Queen Elizabeth, which Mountmorres reprinted in full. The author makes no attempt at original inquiry, and the work is practically silent as to the Parliaments of Henry VII. and Henry VIII. For information about the Tudor Legislature we are thus reduced in effect to the ancient authority in Holinshed just referred to, to some passages in Stanihurst's *Description of Ireland*, published in the same Chronicle, and to one or two chapters in Edmund Campion's *History of Ireland*, written in the year 1571. No attempt has hitherto been made to combine with these older authorities the information which the publication of the *State Paper Calendars* has made available. For although the late Dr. Richey, in his admirable *Short History of the Irish People*, has based his account of the Tudor period, and more particularly of the Irish policy of Henry VIII., on the authority of these records, his attention was not especially directed to questions of Parliamentary or Constitutional history. Nor are the references to this subject in Mr. Bagwell's *Ireland under the Tudors* much more than episodic, although in a chapter on the Irish Parliament the earlier constitution of the Legislature is lucidly summarised. It thus appears that the early Parliamentary history of Ireland, from the time when Parliament, in the modern sense of the term, can be said to have existed in this country, is still to a great extent unwritten; so that although the present inquiry is on a scale much too small to exhaust the subject, it will, I trust, be found to supply, in some degree, this *lacuna* in our history, and to illustrate the evolution of the Parliamentary institutions of Ireland.

The statement of Sir John Davies, that "for the space of 140 years after King Henry II. had taken possession of the lordship of Ireland, there was but one Parliament for both kingdoms," has been criticised with some acerbity by writers zealous for the antiquity of the legislative institutions of Ireland. It is certain that the literal accuracy of this assertion cannot be sustained; yet there can be little doubt of the substantial truth of the statement that, "Before that time, the meetings and consultations of the great lords with some of the commons—though they be called Parliaments in the ancient annals—yet being without orderly summons, or formal proceedings, are rather to be called parlies than Parliaments." The eminent Speaker of James I.'s Irish Parliament, whose speech before the Lord Deputy Chichester, in 1613, is the first extant attempt at a historical survey of the history of Parliamentary institutions in Ireland, would have been the last to depreciate the importance of the

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PROCEEDINGS

OF THE



ROYAL IRISH ACADEMY

VOLUME XXV., SECTION C, No. 10

C. LITTON FALKINER

THE PARLIAMENT OF IRELAND UNDER
THE TUDOR SOVEREIGNS



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But although in Ireland, as in England, Parliament was called more frequently in the fifteenth century than in either the sixteenth or the seventeenth, we have practically no record of its procedure. In any attempt to trace the procedure of the Irish Parliament, we can hardly start farther back than the opening of the Tudor period; and in effect with the celebrated Parliament of Sir Edward Poynings, which marks the opening of a new Parliamentary era. That assembly was not, indeed, the only Parliament held in Ireland under the first Tudor. If we include that held at Drogheda in the same year by Robert Preston, Lord Gormanston, which was subsequently declared void for want of any general summons of the Knights of the Shires, there were at least six Parliaments called in this reign. Of these, the first, which was held in 1492 by Walter, Archbishop of Dublin, as deputy for the Lord Lieutenant, Jasper, Duke of Bedford, can hardly be deemed to have comprised a fuller representation of the Lords and Commons of Ireland than Gormanston's. For an address to the King "from his true and faithful subjects the Lords Spiritual and Temporal, and his Councillors of his land of Ireland in playne Parliament ther assembled," though apparently signed by all the members, contains no more than sixteen signatures. Even if we suppose (a hypothesis for which there is no warrant) that the signatories were limited to members of the Upper House, and that the document takes no account of the Commons, the unrepresentative character of the assembly is shown by the fact that every one of the seven Spiritual and nine Temporal Lords was territorially connected with the Pale.¹ But whatever its composition, the legislative vigour of this Parliament cannot be gainsaid. In spite, or possibly because, of its limited numbers, it passed as many as thirty-two statutes in the course of its two sessions.²

Of the other Parliaments of Henry VII., besides that summoned by Poynings, two were held by Lord Gormanston, the first at Trim, and the second, already mentioned as invalid, at Drogheda. A Parliament was held in 1498 by Gerald, Earl of Kildare, at Castledermot, or Tristledermot, and another, which may, however, have been no more than a second session of the same Parliament, was held

¹ The Archbishop of Armagh forms an exception more apparent than real, since Louth formed part of his Archdiocese, and the Primate's principal residence was at Drogheda.

² The statutes of this Parliament were the last which were drawn in Norman-French.

by the same Deputy in Dublin in the following year. Henry VII.'s last Parliament, which was likewise summoned by an Earl of Kildare, held three sessions in Dublin, and one at Tristledermot in the last year of the reign.

In the absence of any kind of record beyond the bare enactments upon the rolls of Parliament, it is impossible to form for ourselves anything like a picture of the procedure of Parliament under Henry VII. It appears clear indeed, from the language of the Address of the Parliament of 1492, already referred to, that the first Parliament of the reign, like that of Gormanston's at Trim, which is described by Ware as consisting of the "nobles and prime men" of the Pale, was little more than a representation of the peers of the four counties adjacent to the capital. It is at any rate very improbable that in such an assembly there can have been any separate representation of the Commons as a distinct House. The only clue to the form and fashion of the meetings of the Legislature at this time is furnished by an Act of Poynings' Parliament, from which we may infer the informal character of the earlier assemblies. The statute 10 Henry VII., cap. 16, required that the Lords should wear their Parliament robes, this custom having lately fallen into disuse. The only other indication of the usages of Parliament in the last years of the fifteenth century is afforded by the records prefixed to the statutes of each Parliament, which preserve for us the names of the towns in which each session was held. From this it appears that, although confined by law to Dublin and Drogheda,¹ the Parliament sat at the pleasure of the Deputy in different towns of the Pale, and that Trim and Tristledermot were favourite venues.

The obscurity in which the usages of Henry VII.'s Legislature are wrapped extends to the three first of the five Parliaments of his successor. Of the Parliaments of the 7th, 13th, and 25th of Henry VIII., we know almost nothing beyond what the Statute Book tells us, notwithstanding that the two last-named were held under

¹ Of the Acts passed in the Parliament of 1498 only one is printed in the Statute Book. But several others were passed, and these have been printed in Sir John Gilbert's *National Manuscripts of Ireland*, from a roll discovered in England in the last century. Those passed in 1508 have not hitherto been printed. Ware laments in his *Annals* that the laws made in the Parliament of 1498 were not upon record in his time. He mentions that one Nangle was imprisoned in England on a charge of having surreptitiously taken away the Rolls.

² See Statute, 33rd Hen. VIII., s. 2, c. 1.

Viceroy so eminent as the Earl of Surrey and Lord Leonard Grey. It may, however, be collected from the recitals prefixed to the statutes of the last-named Deputy, that Parliament at this time resumed the provincial sessions, which had been the rule rather than the exception in earlier times. Grey's Parliament held as many as eight sessions between May 1st, 1536, and December 20th, 1537. Of these the first four were held successively in Dublin, Kilkenny, Cashel, and Limerick—a fact which seems to refute the description applied by Dr. Richey to this Parliament, of “the last colonists, or Pale Parliament held by an English Viceroy in Ireland.” In thus moving the seat of the Legislature beyond the limits of the Pale, the Deputy appears to have violated the law, and doubts seem to have arisen as to the validity of the measures passed by his Parliaments. For we find that one of the first measures passed by the Parliament called in 1541 by Sir Anthony St. Leger, was an Act by which an old statute under which the seat of Parliament had been limited to the towns of Dublin and Drogheda was declared void, and this enactment was given a retrospective application. The Parliament of 1541 likewise held as many as eight sessions between its first meeting on 13th June, 1541, and its dissolution on 19th November, 1543. One of its most important sessions was in Limerick, and it also sat in Trim. These perambulatory habits were followed in the Parliament called by Sussex in 3rd & 4th Philip and Mary, which sat in Limerick and Drogheda as well as in Dublin. But this is the last instance of the despatch of Parliamentary business elsewhere than in the capital. For although the Parliament of 11th Elizabeth was prorogued by Sir Henry Sydney from Dublin to Drogheda at the close of its first session, the sitting there on February 13th to 15th, 1569–70, was merely formal, and the subsequent sittings of this Parliament were held in the capital. Sir John Perrott likewise prorogued the Parliament of 1585–6 from Dublin to Drogheda. But the sittings were again formal, and Parliament was prorogued to meet in Dublin; “in respect,” as Perrott reported, “of the inability of that town to bear the train of a Parliament.”¹

It is with the famous Parliaments of 1536 and 1541, in the latter of which Henry VIII. assumed, for the first time, the title of King of Ireland, that the history of the Irish Parliament—from a constitutional point of view—may be said to begin. But before considering the features to which these Parliaments owe their importance, it will be

¹ Cal. S. P. (Ireland), 1586–88, p. 30. Perrott to Walsingham, Feb. 20th, 1586–6.

convenient to consider the effect of Poynings' Act upon the development of Parliamentary institutions in Ireland in the century following its enactment.

Poynings' Act, though now chiefly remembered as having reduced the Irish Legislature to a state of dependence upon England, was very far from originating solely in a desire on the part of the Crown, or its representatives, to assert the subordinate position of the Irish Parliament. It was, on the contrary, primarily due to the anxiety of the Lords of the Pale to control the King's Deputies in their previously unrestrained exercise of the royal prerogative. Prior to the legislation of 1495, both the time of the calling of Parliament, and the choice of the measures to be submitted to it, lay in the unfettered discretion of the Viceroy. In the opinion of the leading men of the Pale, this discretion had been very frequently abused in the latter part of the fifteenth century. Although in the reigns of the latter Plantagenet rulers several princes of the blood royal, and other English peers of the highest eminence, had been appointed to the position of Lord Lieutenant, no holder of that title had visited Ireland for upwards of thirty years prior to Poynings' nomination as Lord Deputy. The authority of the Crown had in consequence been, in a great measure, usurped by the rival families of Butler and FitzGerald. In the time of Edward IV. and Richard III., the Earls of Kildare, who had been consistent supporters of the Yorkist cause during the Wars of the Roses, had enjoyed that practical monopoly of power the loss of which under Henry VII. was the main incentive to the patronage accorded by the FitzGeralds to successive pretenders to the English Crown. And they had not always employed that power for unselfish ends. Some of the unpublished statutes of the last-named monarch are exclusively directed to the aggrandisement of the great House of Kildare, whose predominance was distasteful, not merely to the rival House of Ormond, but to the heads of the old families of the Pale. Accordingly, while Poynings' Act was certainly designed in part by Henry VII. and his advisers to punish Kildare for his action in abetting the pretensions of Simnel and Warbeck, it had the complete approval of the Parliament of Ireland. This fact is attested not only by the language of the Act itself, but by the curious fact that the several repeals or suspensions of Poynings' Law, which the conditions of the time rendered a matter almost of necessity during the century following its enactment, were vehemently opposed by the Irish Parliament.

It is easy to understand that the operation of this law, which rendered Parliament powerless until the business to be brought before

it had been certified by the Irish Government to the English Privy Council, was found in practice to be exceedingly irksome to those responsible for the administration of the country. No measure, however urgent or desirable, could be dealt with unless it had been devised and certified before the meeting of Parliament. In days when communication was slow and tedious to a degree which it is now difficult to conceive, this was a very real difficulty. Accordingly, it was found desirable by the Ministers of the Crown, as early as the 28th of Henry VIII., to modify Poynings' Act. A letter from Lord Chancellor Audeley to Thomas Cromwell, written in view of the assembling of Lord Leonard Grey's Parliament, explains the ministerial point of view. "I have also seen," he wrote, "the Act made in Ireland in Poynings' time. I do not take that Act as they take it in Ireland; nevertheless for clere matter of the Actes that should passe in this Parliament at Irlond, I have made a short Act that this Parliament, and everything to be done by authoritye thereof, shall be good and effectual, the said Act made in Poynings' time, or any other Act or usage of the land of Irlond, notwithstanding."¹ An Act to this effect was accordingly passed, and a further Act of Explanation (Statutes Henry VIII., cap. 20), declaring the effect of Poynings' Act, was passed in the same session. The law was, in fact, continually the subject of these suspensory measures. In 1557 Sussex attempted to settle the difficulty by a declaratory Act² which, after reciting that "forasmuch as manie events and occasions may happen during the tyme of Parliament, the which may be thought meet and necessary to be provided for," authorised the certifying into England during the currency of Parliament of such further causes and considerations as the Lord Lieutenant and Council might think fit. But these relaxations of the provisions of Poynings' Law were viewed with much suspicion by the Irish Parliament. This is best seen by what occurred in Sir Henry Sydney's Parliament, called in the 11th Elizabeth.³ The first measure submitted to this Parliament was "An Act authorising Statutes, Ordinances, and Provisions to be made in this present Parliament concerning the government of the Commonweale, and the augmentation of her Majesties revenues, notwithstanding Poynings' Act." Of the proceedings in relation to this measure a lively account has

¹ *State Papers*, Henry VIII., part i., p. 440.

² "An Act declaring how Poynings' Acte shall be exponed and taken," 3rd & 4th Philip and Mary, cap. 4.

³ 11th Elizabeth, cap. 1, sess. 2.

been left by the Irish Lord Chancellor, Weston, in a letter to Cecil.¹ After describing the contentions, well known to us through Hooker's description in Holinshed, over the composition of the House of Commons, and the opposition to the presence of a number of English members with no stake in Ireland, the Lord Chancellor thus refers to the discussion on Poynings' Act:—

"The first Bill that was readd was touching the suspending of Poynings' Acte: a good and profitable bill, and worthie of much favoure: and so wee thought it should have found. But it was handled as things are used to be that fall into angrie men's hands, without good advice and consideracon, it was with great earnestnes and stomake overthrowen and dasshed."

The Commons, however, were not long in repenting their rejection of the Bill. In effect they had reduced both Houses to the position which the House of Lords in England now occupies towards the House of Commons in respect of a Money Bill. On passing to the consideration of the other Bills submitted to them, they found the result of their action was to prevent their making any amendments in them, and to involve the acceptance or rejection of all measures submitted in the precise form in which they had been certified to the English Council. They accordingly addressed the Lord Deputy to procure a prorogation of Parliament in order that the Suspensory Bill might be re-introduced in a fresh session. After a brief interval of three days, Parliament reassembled, and the Bill was passed through all its stages in both Houses in a single day: the Lord Deputy, Sydney, who had opened the Session in the morning, coming down specially to the House of Lords to give the royal assent. For the judges considered, as Weston observes, that "neither any amendment might be made of any of the bills sent out of England under her highness' great seal, nor treaty of any new bill, except first the said bill of Poynings', by the said royal assent, were confirmed as the very ground and foundation on which all the others were to be layd and bylded." But though it thus concurred in the suspension of the Act, as the only means of preventing its whole proceedings from becoming abortive, this Parliament marked its sense of the importance of the original Act of Poynings as a security of the Legislature against the arbitrary action of the Deputies, by enacting in the same session that no bill should be certified into England for the repeal or suspension

¹ See Holinshed, vi., p. 34, and a Letter of Lord Chancellor Weston to Cecil, dated February 17, 1569, in *State Papers* (Ireland), vol. 27, No. 25.

of Poynings' Act, unless such Bill should be first agreed upon in a Session of the Irish Parliament by a clear majority of the members of both Houses.¹

That this objection of the Irish Parliament of the sixteenth century to any interference with a measure which it appears to have continuously regarded as the Charter of its independence against Viceregal oppression was deep-seated and abiding, is shown by the action taken subsequently in Perrott's Parliament of 1585. In that assembly a bill was introduced for the total repeal of Poynings' Act, on the ground that under its provisions, coupled with those of the 11th Elizabeth, Parliament was "shut up and forbidden to make any law or statute unless the same be first certified into England." Yet though the Bill recited the willingness of the Deputy to admit the Houses to conference touching any bill to be treated of, the measure was rejected by the Commons, as a result of the first division of the Irish House of Commons of which any particulars have been preserved, by the large majority of thirty-five. Following Sydney's precedent, Perrott prorogued the Parliament, and the measure was submitted a second time in a fresh session, but it was once more defeated, this time by six votes.²

This was the last occasion for close on two centuries on which any attempt was made in the Irish Parliament to procure the repeal of the famous legislation of 1495, though in 1692 the House of Commons asserted the principle that money bills should originate in their House, and were not dependent on the approval or suggestion of the English Council. Of course, the strictness of the provisions of Poynings' Law was greatly modified by the practice which grew up in the seventeenth century, by which the Irish Parliament submitted heads of bills as the basis of the bills certified by the English councils, thus recovering in fact, though not in form, the power of initiating legislation on their own account.³ It thus appears that Edmund Spenser's statement

¹ 11th Elizabeth, cap. 8, sess. 3.

² Letter, dated May 27, 1585, by Sir Nicholas White, Master of the Rolls in Ireland, to Burghley. *State Papers (Ireland)*, vol. 16, No. 56.

³ The claim made in 1692 was repudiated by the Viceroy, Lord Sydney, in an energetic protest, which was inserted in the Journals of Parliament, and the demand was never pressed. On Dec. 2, 1757, it was resolved by the House of Commons—"That it is the undoubted right of every member to declare his opinion touching the construction of Poynings' Law, and to move its repeal, without incurring any pains and penalties for the same, and any threat to deter a member from so doing is a breach of the privilege of the House." *Commons Journal*, vol. x., pp. 366, 367.

regarding the origin of Poynings' Act is well founded, and that "this Act, though it seemed *prima facie* to restrain the liberty of the subjects of Ireland, yet it was made at the prayer of the Commons upon just and important cause."

But to return to the Parliaments of Henry VIII. Although there is extant no description of the assembling of the Parliament of 1536-7, nor any proper record of its constitution, not a little may be gathered respecting it from the references in the State Papers of the time. Thus we are able to say with certainty that it possessed two important attributes of a modern Parliament, of which no definite mention is to be found at any earlier period. It is in connexion with Grey's Parliament that we first find clear proof that the Commons sat as a separate assembly, and that we first find specific mention of the Speaker as the mouthpiece of the Lower House. The language of a letter of Sir William Brabazon to Cromwell, in which he eulogises the Commons, though not conclusive as regards the first point, is scarcely consistent with the theory that the Lower House remained down to this time part of one general assembly of Parliament, and had no separate corporate existence. "The Commen House," wrote the Vice-Treasurer, "is mervelious good for the King's causes, and all the lerned men within the same be very good."¹ More definite is Grey's language a year later: "At this session some billes were passed the Comon House, and by the Speaker delivered to the Highe House to be debated there."² Here we have the first definite indication of the separate session of the Commons, and the first mention of its great constitutional officer.³

It is in relation to Lord Leonard Grey's Parliament also that we have the earliest allusion to the ceremonies attending the meetings of the Tudor Parliament during its sessions in Dublin. From a letter of the Mayor and Aldermen of Dublin to Cromwell⁴ we learn that "the Cathedral Church of the Blessed Trinite of the Kynges citie and chambre of Dublin . . . is the very station place whereas the Kinge's Graces honorable Parliaments and Councillors are kepyn"; and Grey

¹ Brabazon to Cromwell, May 17, 1536. *State Papers*, Henry VIII., vol. II., pt. iii., p. 315.

² Grey and Brabazon to Cromwell, May 18, 1537, *ib.*, p. 438.

³ In the *State Papers*, Henry VIII., vol. II., pt. iii., p. 403, there is printed a letter of the King, desiring a "benevolence" from the laity of Ireland, which is addressed "To the Commen House of the Parliament in Irland."

⁴ 23 Jan., 1537-8, *ib.*, p. 545.

writes at the same time¹ that "the hous called Christes Church, within the Kinges citie of Dublin, is situate in the high place of the same, like as Poules in London, where the comen congregations of Parliamentes and greate Counsaillies hath been used to be seledrated." It is clear, however, that though Parliament assembled at Christ Church, and attended Divine Service before entering on its business, it was not within the Cathedral itself that its proceedings took place. Hooker's language in his account of Sir Henry Sydney's Parliament shows that in the later Tudor Parliaments, at all events, there was a recognised place of meeting. "On the first day . . . the Lord Deputy . . . was conducted and attended in most honourable manner unto Christes Church, and *from there unto the Parliament House*, where he sat under the Cloth of Estate, being apparelled in the princelie robes of crimson velvet, doubled or lined, with ermine." Sydney, like most of his immediate predecessors, was at this time resident at either St. Sepulchre's or Kilmainham; and it seems probable that, after the service in Christ Church, he repaired to the Castle, where in 1568 he was already engaged in carrying out a restoration which his predecessor had initiated, and where the ancient Great Hall was most likely the meeting-place of the House of Lords, and the scene of the formal ceremonies attending the opening of Parliament and its prorogation. The Commons most probably sat in Christ Church² in the "Common House."³ This building, which is referred to in an Act of Henry VI. as "the Common House within the Cathedral of the Holy Trinity," may perhaps have been on the site of the

¹ 19 Jan., 1537-8, *ib.*, p. 445.

² Ware speaks of the Parliament called by Sussex in 1559 as having "sat in Christ Church" from January 12th to the beginning of February following. This was doubtless owing to the Castle being at that time actually under extensive repairs. Parliament sat only for three weeks, and the proceedings of the two Houses may have been held in the "Common House" on separate days. The language of Lord Leonard Grey, which has been construed as meaning that the proceedings of Parliament were actually conducted in the Cathedral, clearly refers only to the ceremonial observances on great occasions. (The Cathedral) "is the verie station place wher as the Kinges Graces honorable Parliamentes and Counsaillies are kepyn, all sermons ar made, and wher as the congrgacions of the said citie, in processions and station daies, and at all other times necessarie, assemblith, and at all tymes of the birthe of our most noble Princes and Princesses, and other tymes of victorie and triumphe, processions ar made, and 'Te Deum Laudamus' customablie is songe, to the laud and praise of God and the honor of our said Princes and Princesses."—*State Papers*, Henry VIII., vol. II., pt. iii., p. 545.

³ Harris's *History of Dublin*, p. 43.

"sumptuous fabric" in the precincts of Christ Church in which the Four Courts were situate in the seventeenth century.¹

The Parliament of Lord Leonard Grey is further remarkable for the abolition of an interesting survival of the ancient constitution. Clerical Proctors had been summoned in England by the Plantagenet sovereigns to complete the representation of the spiritual estate.² But their parliamentary functions had been early forgotten; and, their right to a place in the High Court of Parliament having merged in their privileges as members of Convocation, they had ceased to be summoned to Westminster long before the opening of the Tudor era. The case of the Proctors is, however, only one among many examples of the survival of constitutional and administrative usages in Ireland long after they had become obsolete in England. Down to, and including, the Parliament of 1536-7, two Proctors of every diocese had been "used and accustomed to be summoned and warned to be at Parliament,"³ though some doubt appears to have existed as to their precise position and powers in the Legislature. Their attempt to assert a complete equality with the Commons in the Parliament of 1537 led to an abridgment of their functions which finally destroyed whatever legislative authority they had at any time possessed. In their opposition to the ecclesiastical legislation which was the principal business of Grey's Parliament, the Proctors advanced pretensions which, if admitted, would in effect have constituted them a separate estate, and would have enabled them to veto whatever legislation they disapproved. For the purpose of over-riding the preponderating influence of the spiritual peers, who were opposed to the assertion of his supremacy in matters ecclesiastical, Henry VIII. had made such additions to the temporal peerage as were necessary to secure a majority in the Upper House. To meet this abridgment of their powers, the spiritual peers put forward the claim of the Proctors to a concurrent voice in the Lower House. They declined to receive any bills sent up from the Commons till they knew whether their Proctors in the Convocation House had a voice or not. The claim was vigorously asserted by the Proctors themselves,

¹ Camden's *Britannia*, p. 1367.

² Stubbs's *Constitutional History of England*, iii., 462. The historian notes that in 1547 the Lower House of Convocation in England petitioned that, "according to the custom of this realm and the tenor of the king's writ," they should be associated with the Lower House of Parliament. He adds "we have here, possibly, a trace of a long-forgotten usage." The usage had evidently been preserved in Ireland.

³ Statute 28th Henry VIII., cap. 12.

whose "frowardness and obstinacy" were feelingly deplored by Grey in his letter to the King. The Deputy referred the matter to the Judges, who reported that the Proctors had no voice in Parliament, and that, even were it otherwise, their assent was not essential, since the rolls showed that several Acts had passed into law, notwithstanding that it was recorded that "*procuratores cleri non consenserunt.*"¹ In accordance with this opinion of the Judges, a bill "against Proctors to be any member of Parliament,"² was submitted in the second session, when it was enacted that Proctors should have no voice or account in any proceedings in Parliament, and that they should not in future "be accepted, reputed, deemed or taken as parcel or any member of the said Parliament, but only as counsellors to the same."

The important Parliament called in the 33rd year of Henry VIII. by Sir Anthony St. Leger is the first of the Tudor Parliaments of whose formal gathering any satisfactory account survives. The Deputy himself sent a long description of its assembling to Henry VIII. From this paper we learn many interesting details. No list of the members of this Parliament is forthcoming; but in recounting the proceedings in connexion with the passing of the Act conferring the title of King of Ireland on the English monarch and his successors, St. Leger gives us some idea of its composition. On the occasion of his expressing the royal assent to that measure, there were present, St. Leger tells us, "2 Earls, 3 Vicomtes, 16 Barons, 2 Archbishops, 12 Bishops, Donnoghe O'Brien, and the Doctor O'Nolan and a Bishop, Deputies assigned by the Greate O'Brien to be for him in the Parliament, the great Orayly, with many other Irishe capytains; and the Common House, wherein are divers knights, and many gentlemen of faier possessions."³ Elsewhere in the same letter, the Deputy notes the formalities observed at the assembling of the Parliament, the procession of the members of both Houses to Saint Patrick's on the occasion of the proclamation of Henry VIII. as king of Ireland, and the earlier procession to Christ Church, "the like of which hath not been seen here of many yeres."⁴

Even more interesting than these matters are the references in St. Leger's report to the office of Speaker, and the formalities attending his election to the Chair. In Tudor times in England, as

¹ Grey and Brabazon to Cromwell, May 18, 1537. *State Papers*, Henry VIII., vol. II., pt. iii., p. 438.

² Statute 28th Henry VIII., cap. 12.

³ *State Papers*, Henry VIII., vol. III., iii., 304-5.

is well known, the Speaker was less the officer of the Commons than the nominee of the Crown. Sir Thomas Smith, one of the earliest writers on the English Constitution, writing in Elizabeth's reign, observes, in his *Commonwealth of England*, that "the Speaker is he that doth commend and prefer the Bills exhibited into the Parliament, and is the mouth of the Parliament. He is commonly appointed by the King or Queene, though accepted by the assent of the House."¹ The right of election in the Commons had in fact degenerated under the Tudors into something little more real than the *congé d'élire* to a Cathedral Chapter for the election of a bishop. The royal nominee was invariably selected beforehand by the Government; his nomination was as invariably ratified by the Commons; and he was almost always a Crown lawyer. A similar conception of the office appears to have prevailed in Ireland at this period, and indeed for long afterwards. The person pitched upon by St. Leger, and the first recorded Speaker of the Irish House of Commons, was Sir Thomas Cusake, then at the commencement of a highly distinguished, though somewhat chequered, career. Cusake had already held for a few months a puisne Judgeship in the Common Pleas—a position which he had perhaps resigned in view of his intended election as Speaker, and he had been a diligent servant of the Crown. But, like more than one of his successors in the eighteenth century, he united with the Speakership the Chancellorship of the Exchequer. St. Leger, in commending him to the King, described him as "a man that right paynfully hath served your Majestie at all times, and as "a gentil man of the best possessions of any of his degre within your Inglishe Pale."² On the Friday after the meeting of Parliament, the Commons—"being assembled in the place of Parliament accustomed"—presented Cusake to the Deputy, who, on being accepted, made, according to the custom of Speakers in England, a speech which is described by the Deputy as "a right solempne preposition," but one which, unlike the declarations of modern Speakers on similar occasions, was much less concerned with the vindication of the liberties of His Majestie's faithful Commons, than with a vigorous assertion of the King's prerogatives.³

¹ Edition of 1633, p. 77.

² *State Papers*, Henry VIII., III., iii., 304.

³ It does not appear whether or not Cusake was also Speaker of Lord Leonard Grey's Parliament, though this is quite possible. St. Leger, in his letter quoted above, mentions him as having "for this five or six yeres miche traveled about

That the Irish Parliament under the Tudors could set an example of the rapid despatch of business is shown by the proceedings on the Bill for the royal title. "For," says the Deputy, "the bill being three tymes redd (in the Upper House), and with one voice agreed, we sent the same to the Lower House, where in lyke wise it passed, with no less joy and willing consent. And upon Saterday folowing (being the next day) the same Bill being redd in playne Parliamente, before the Lordes and Commons, it was by me, your most humble servante, most joyously consentid." Next day, June 19th, being Sunday, "all the Lordes and Gentilmen rode to your Church of Sent Patrikes, where was song a solempne Masse by the Archbishop of Dublin, and after the Masse the said Acte proclaymed ther in presens of 2,000 parsons, and Te Deum song with great joy and gladness to all men."¹

From the dissolution of St. Leger's Parliament, an interval of over fifteen years elapsed before another meeting of the Legislature took place. No Parliament was called in Ireland in the reign of Edward VI., though as appears from a letter of the Protector Somerset to the Deputy, it was intended that St. Leger, who in 1550 was re-appointed to the Irish Government, should "cause a Parliamente of the Lords and Commons to be summoned." But St. Leger's appointment being revoked before he had done so, no summons was issued for a meeting of the Legislature. It was not until the third year of Philip and Mary that Parliament again met. The Earl of Sussex called the only Parliament of the latter reign in 1557. Of this Parliament we only know, apart from its statutes,

your Highness' affairs." His resignation of the Judgeship he held in the Common Pleas, and his appointment as Chancellor of the Exchequer in 1536, lend colour to the supposition that his first election to the Chair was in that year.

As regards the times and hours at which Parliament met, sittings were held every week-day while Parliament was in session, excepting the principal feasts of the Church. The hours, which were from 8 a.m. to 11 a.m. (the afternoons being devoted to Committees), were apparently governed by the difficulty of providing artificial light. Hooker, in his account of the proceedings in Sydney's Parliament, mentions the sitting of the House of Commons till 2 p.m. as quite exceptional. "The time and day was so far spent above the ordinary hour, being well nigh two of the clock in the afternoon, that the Speaker and the Court rose up and departed." This is the nearest approach in Tudor times to an all-night sitting in the Irish House of Commons. Holinshed, vol. vi., p. 345.

¹ *State Papers, Henry VIII.*, vol. III., pt. iii., p. 304.

² See Hardiman's Introduction to his Notes to the Statute of Kilkenny in *Tracts relating to Ireland*, p. xv.

of which the principal related to the shiring of Ireland, that it met at Christ Church in June, and was prorogued in the following month. The name of the Speaker has, however, been preserved for us by the filial piety of Richard Stanihurst, whose father, James Stanihurst, the Recorder of Dublin, and one of the members for the city, was in this Parliament elected to the Chair for the first time. Stanihurst was again chosen in the two subsequent Parliaments of 1559-60 and 1568.

The first Parliament of Elizabeth met at Christ Church,¹ on January 12, 1559-60, and was likewise summoned by the Earl of Sussex. It was dissolved after barely three weeks, on February 1st, in consequence of its being found that "most of the nobility and Commons were divided in opinion about the ecclesiastical government." But it is of interest to the student of Parliamentary antiquities, because it is the first for which a complete roll of members has been preserved. The Upper House included three Archbishops, seventeen Bishops, and twenty-three temporal peers. Twenty counties were represented, and twenty-nine boroughs. As each constituency returned two members, the full strength of the House would appear to have been ninety-eight. But the borough of Kilmallock seems to have made no return. In this Parliament the then undivided province of Connaught was reckoned as a single county. Ulster was represented by the members for the counties of Antrim and Down; the latter being divided into Down and Ards, each of which returned two members. Of the proceedings of this Parliament, which was chiefly occupied with the religious settlement following Elizabeth's accession, no details survive. But, as already mentioned, Stanihurst was again its Speaker, having been preferred by Sussex to Cusack, Speaker in St. Leger's Parliament, who, having resigned or lost his Chancellorship, was again a member of the House, and sat for Athenry.²

With the second Parliament of Elizabeth, which was summoned in 1568 by Sir Henry Sydney, we reach firmer ground, and are able to realise more accurately the manners and usages of a Tudor Parliament. For

¹ But see note at p. 520, *supra*.

² See a document printed in the *Hatfield Papers*, part iii., p. 459, in which it is stated by the writer that "Cusack or Stanhurst will be fit to be speaker." This document, which is conjecturally dated by the editor of the Calendar, 1589, manifestly belongs to 1569, and was written by Sussex in view of the approaching session of Parliament. From its mention of Scurlocke as attorney-general, the document cannot be of later date than 1569, since Scurlocke died in that year.

not only do we possess more than one narrative of its proceedings, but it may even be said that we reach the dawn of Parliamentary reporting. Two writers of importance have devoted considerable space to their notices of the proceedings of this Parliament, which met on January 17, 1568-9, and, holding three sessions, did not terminate till December, 1570. And the *State Papers* contain a despatch which describes the scene at the commencement of the session in considerable detail.

In Holinshed's *Chronicles of Ireland*, a lengthened narrative is supplied by one who himself held a seat in the Parliament. John Hooker, the well-known antiquary, and uncle of the eminent theologian, Judicious Hooker, who happened to be in Ireland in 1569 in connexion with Sir Peter Carew's litigation about his Irish estates, was returned to the House of Commons for the borough of Athenry. Hooker was member for Exeter in the English Parliament; and in the controversies which arose as to procedure, his experience was of great use to his fellows in the Irish House. For their benefit, he drew up "a booke of the orders of the Parliaments used in England,"¹ which is of great interest and value as among the earliest, if not actually the first, treatise ever written on Parliamentary Practice and Procedure. But, in addition to this service, we owe to Hooker the first authentic report of the proceedings of Parliament. In his description of what passed at the opening of the first session of Sydney's Parliament, he not only describes the scene on the first day of the sitting, but he supplies an epitome of the speeches made by the Lord Chancellor on the opening day, and by the Speaker and Sydney, three days later, when Stanihurst presented himself to receive the Lord Deputy's approbation of the choice of the Commons.²

¹ Holinshed, vol. vi., pp. 345-362.

² Hooker's interest in Irish Parliamentary proceedings led to his obtaining from the Irish Privy Council a license to print the Irish statutes, with an exclusive monopoly of the copyright for ten years, in the following terms:—

"Whereas divers Parliaments have been holden within Ireland, and divers laws, statutes, and Acts made in the same, which laws, being hitherto never put in print, have been altogether turned into oblivion, motion has therefore been made to us by the Speaker of the Lower House, now lately assembled at Dublin, that the said statutes might be in print. And forasmuch as John Vowell, *alias* Hooker, gent., being one of the said assembly, has offered at his own charges to imprint all the said statutes and Acts heretofore made, we grant him the sole privilege and license to imprint the same for ten years next ensuing."—20 Mar., 1568-9, *Carew Cal.*, vol. i. 387.

The details furnished by Hooker are supplemented in an interesting manner by another writer of note. It chanced that in this same year Edmund Campion, the well-known author and Jesuit, was a visitor to Dublin during the first session of Parliament. Campion had come over as a tutor to young Richard Stanihurst, the Speaker's son. Residing in the Speaker's house, he was, as he states in the preface to his History, in "such familiar societie, and daylie table-talk with the worshipfull Esquire, James Stanihurst, Recorder of Dublin," that he knew everything that went on. Campion was present at the prorogation of Parliament, at the close of the first session. His summary of what passed on that occasion is the first conscious attempt at reporting the proceedings of an Irish Parliament, and Campion gives this account of his work as reporter:—"The day of prorogation, when the Knights and Burgesses of the Commonalty resorted to the Lordes of the Upper House, much good matter was there uttered between the Deputy and the Speaker, whereof comming home to my lodging I took notes, and here I will deliver them as neere as I can call them to minde, in the same words and sentences that I heard them." The principal matter of these orations related to educational topics, Stanihurst felicitating his audience on the passing of the Act for the erection of Free Grammar Schools,² while regretting that "our hap is not to plant yet an University here at home."

It appears from Hooper's epitome of Stanihurst's speech that even thus early the common form of an English Speaker's address to the Crown was followed in the Irish House. The Speaker of 1568 made the usual *nolo episcopari* declaration of his unworthiness and incapacity, desiring that "some man of more gravity, and of better experience, knowledge, and learning," might supply the place. He then went on to claim the immemorial liberties of the Commons, freedom from arrest, and freedom of speech. But instead of the petition for freedom of access to the person of the sovereign, which in England has been customary from the time of Henry VIII., Stanihurst demanded that in the event of any member misconducting himself, the punishment of the offence should be under the exclusive control of the House. He does not appear, however, to have petitioned, as was then usual in England, that a favourable construction might be put upon

¹ Campion's *History of Ireland*.

² Statute, 12th Elizabeth, cap. 1—An Act for the erection of free schools.

any action of his own which might seem wanting in respect to the sovereign.¹

A third picture of the proceedings in Sydney's Parliament is supplied in the *State Papers*² in a letter addressed to Sir William Cecil, afterwards Lord Burghley, by Sir Robert Weston, already mentioned as the Lord Chancellor of Ireland at this period. Weston had but lately been raised to the Irish Woolsack, and he united with that great office the eminent position of Dean of St. Patrick's, which was bestowed upon him in order to eke out the inadequate salary which then attached to the highest office in the law. Though a layman, Weston was better qualified than some others of his contemporaries who encroached in this curious fashion on the preserves of the Church to support a clerical dignity. He was a great ecclesiastical lawyer, and had held the office of the Dean of Arches in England; and, if the encomium passed upon him by Hooker be not greatly exaggerated, he was not undeserving of his posthumous eminence in the topmost tier of the Countess of Cork's tomb in St. Patrick's.³

As Speaker of the House of Lords, as well as a very important member of the Irish Privy Council, Weston took a prominent part in the business of Sydney's Parliament. In his letter to Cecil, which is dated February 17, 1568-9, with a postscript written three days later, he gives in very considerable detail an outline of the proceedings at the opening of the Session. "The Lower House," he describes as "at first very disquiet and in contention, through challenge laid to the English members," whose return was impugned for non-residence in their constituencies, and consequently "strangers and none of that house." Weston's reference to the contention over Poynings' Act has been already noticed; but his narrative is also noteworthy for the glimpse it gives us of the practice of the Irish House of Lords. "In the Higher House," he tells us, "the consultation and treaty was more calme and quyet: but yet there was some standinge and reasoninge touching the orders of the House, as, namely, whether the Queenes Highness' learned counsaill were to be suffered in the house, w^{ch}. at leingth was agreed of." Another formal question was, whether the gentleman usher attending on the cloth of estate, or canopy, under which the Deputy sat when present in Parliament,

¹ Holinshed, vi., pp. 342, 353; Stubbs's *Constitutional History*, vol. iii., p. 472.

² *State Papers (Ireland)*, vol. 27, No. 25, Feb. 17-20, 1568-9.

³ The Countess was Weston's granddaughter, through the marriage of her mother, Katherine Weston, with Sir Geoffrey Fenton.

was entitled to stand within the house when sitting. Following the English practice, this official was at first "admytted and sworne to sylence." But it being subsequently urged that this was a novelty in Irish usage, the usher was called before the House, and "wth. fayre words for his diligence . . . was willed . . . to depart thence and to stand wth. out the dore if he wold." So the Gentleman Usher "patiently and courteously departed." The next day, to the obvious chagrin of the Chancellor, the cloth of estate was also removed. "Me thought hit a greate change," he mourned, "and the honor and beawtie of the house gone wth all. But such good will we comonly beare to our old rude and homelye fassins and condicons, that we are ill willing to change them for the better, woorthie ever to drynke ald sower wyne, and never to change o' old garments." The concluding words of Weston's despatch are of interest for their reference to the defects of Dublin as a place of occasional residence. "The assembly cryeth out of the dearth of things here, as they be very dear indeede, and of their intolerable charges and needs."

Last in the roll of the Tudor Parliaments in Ireland stands the well-known assembly summoned in 1585 by Sir John Perrott. Perrott's Parliament, remarkable from the larger historical standpoint mainly for the great Desmond and Balinglas attainders, is of special interest in the present connexion, because it is the first of whose proceedings there is anything like a full formal record. Not only do we possess a full list of the members of the Upper House, and an almost complete roll of the House of Commons, but there is endorsed on the back of the latter a note of the "Orders to be kept and observed in the Lower or Comen House of Parlyament."¹

These orders follow very closely the regulations enumerated by Hooker in his summary of the usages of the English House of Commons. Each member was required to attend "apparayled in his goune, having no armor nor weapon about him"; to make his "dutyfull and humble obeisance" on entering the House; and, "in uttering his mynd to any bill, to use and frame his speache after a quyet and curtyous manner, without any taunts or wordes tending to the reproche of any person." Misbehaviour in the house, or the disclosure of its secret proceedings, was punishable at the Speaker's discretion with the assent of the House. Each member might speak once, and once only, on each reading of a bill; and, while addressing the House, was

¹ Printed in Appendix to Hardiman's "Statute of Kilkenny" in *Tracts relating to Ireland*, ii., 143; and in Lynch's *Legal Institutions of Ireland*, p. 350.

with the early precedents in the English Parliament, where the practice of choosing a lawyer for the Chair doubtless originated in the duty formerly cast upon the Speakers of expounding to the House of Commons the purport of the measures laid before it, and the consequent desirability of some legal training in the persons charged with such a task. The invariable choice of a lawyer had perhaps a further justification by analogy to the practice of the House of Lords, of which the Lord Chancellor was the immemorial Speaker. In Tudor times, when, as already noted, the championship of the royal prerogative seems to have been one of the primary functions of the Speaker, it became habitual to select not merely a member of the legal profession, but one directly connected with the government, or, as we should now say, a law officer. Thus of the Tudor and Stuart Speakers, four held the office of Attorney-General, two that of Solicitor-General, and two that of Prime Sergeant; Sir Thomas Cusake, the earliest recorded Speaker, had been a Judge of the Common Pleas before his election to the Chair, and Sir Nicholas Walsh was Chief Justice of the Presidency of Munster. There are three examples of the selection of the Recorder of Dublin—those of Stanihurst, Catelyn, and Forster; and the last-named was also Attorney-General at the same time. All three represented the city of Dublin. From the reign of Henry VIII. to that of Queen Anne the legal tradition remained unbroken; and although from the accession of the House of Hanover to the Union there is no example of the nomination of a Crown lawyer to the Chair, every one of the eighteenth-century Speakers, with a single exception, had been called to the Bar. The exception is eminently one of those which prove the rule, since the case of Speaker Conolly, who filled the Chair during the reign of George I., is an example which I believe is unique in the Parliamentary history of the Three Kingdoms, of the selection of the First Commoner from the ranks of the Solicitors' profession.

An examination of the careers of the legal Speakers subsequent to their election to the Chair, shows that the pursuit of politics as a royal road to professional preferment is no very modern practice. Many of them attained to the highest judicial eminence, and almost all of them ultimately ascended the Bench. Three of them—Sir Thomas Cusake, Sir Maurice Eustace, and Alan Brodrick—reached the Woolsack, thus exchanging the Speakership of the House of Commons for that of the House of Lords; and the first-named was also for a time Master of the Rolls. Three—Sir Nicholas Walsh, Sir Richard Levinge, and John Forster—not Lord Oriel, but the Speaker of Queen Anne's

dignity to a ceremonial in which he was himself the central figure. Sidney was a Knight of the Garter, being among the last commoners to be admitted to an order which for nearly three centuries has been confined to members of the higher ranks of the nobility; and among the memoranda which Commaundre has preserved in his common-place book, is a list of the Knights of the Garter as they were set up by Sidney on the right and left of the choir of Christ Church on April 20, 1567.

At the opening of the Parliament on January 17, 1568-9, the Lord Deputy, Commaundre tells us, sat under the cloth of state [or canopy] in his robes of crimson velvet, representing the Queen's Majesty's most royal person, with Sir Robert Weston, the Lord Chancellor, on his right hand, and Thomas, Earl of Ormond, Treasurer of Ireland, on his left. Commaundre notes that "these two lords sat severally above by themselves, one either side of the said Lord Deputy, having their seats enrailed about, and hanged or covered with green, and the said Lord Deputy had steps or greeses [stairs] made and covered for the seat of estate, being richly hanged." The position occupied by the Chancellor and Treasurer illustrates the conservatism of state ceremonial, and the importance of the position which had in former times been assigned to those dignitaries. For in the Parliament of the Plantagenets, the Chancellor and Treasurer are known to have been accorded a similar pre-eminence. In the formal preamble to the Acts of Parliament of those days, it was customary to mention them separately, next after the Deputy. Thus the statute of 12 Edward IV., cap. 28, speaks of an accused person as being cited before "the Deputy, the Chancellor and Treasurer, and all the Lords spiritual and temporal and the King's Council in Ireland."¹

After enumerating the peers who attended the opening sitting, Commaundre proceeds to note that, following the fashion of the contemporary English Parliament, the principal judges and legal personages attended the opening ceremony in their robes. "Mem., that the Chief Justices of the one Bench and the other, the Chief Baron, the Master of the Rolls, and the Queen's Majesty's Attorney General, and her Highness' Solicitor, did sit altogether at a table in the myddes of the parliament house." He concludes by informing us that Stanihurst, the Speaker of the House of Commons, also attended the proceedings in the Upper House; and he concurs with other authorities in his estimate

¹ Roll of the Proceedings of the King's Council in Ireland, 16 Richard II. *Rolls Series*, Appendix, p. lxxiv.